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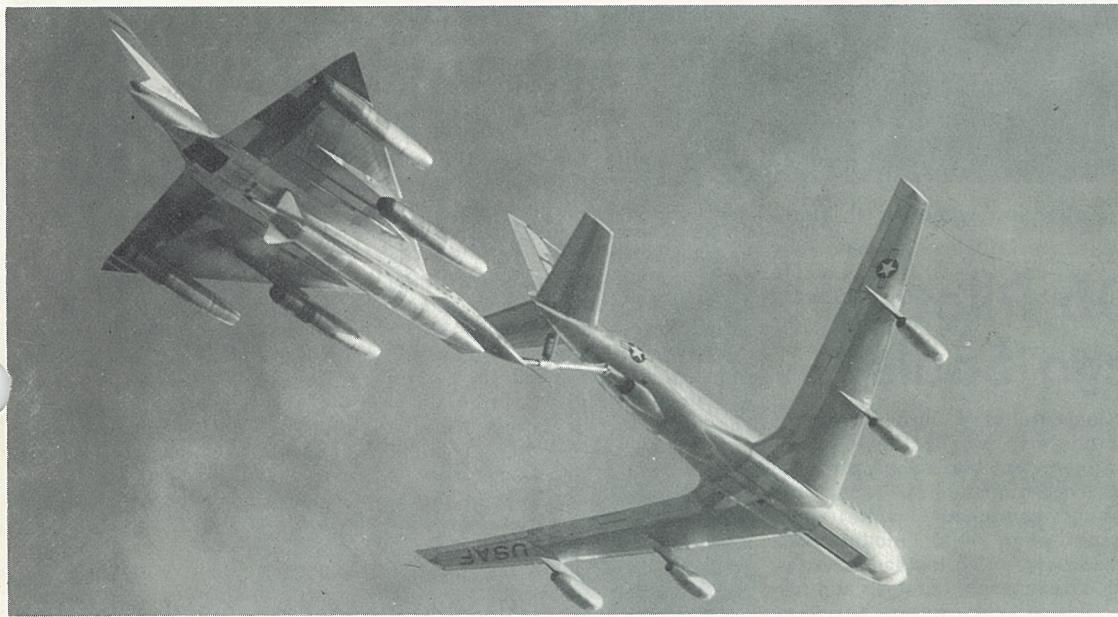
Wednesday, March 2, 1960

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AERIAL DRINK—B-58 Hustler refuels from KC-135 tanker. Such scenes are occurring frequently during demonstrations of rendezvous radar beacon.

## Rendezvous System Used In Refueling

First successful aerial refueling of a B-58 using the new rendezvous radar beacon took place in February. System performance was termed "excellent."

Refueling was done with a KC-135 tanker somewhere in the B-58 flight corridor.

Pacific Division of Bendix Aviation Corporation, Convair Fort Worth, and the Air Force teamed to develop the beacon, currently being put through its paces for effectiveness and reliability.

The radar beacon acts in response to an appropriate electronic signal from the Sperry radar system housed in the refueling plane. When the signal is received, the radar beacon transmits a distinct reply to the refueling tanker, giving such information as range, bearing, and airplane identity.

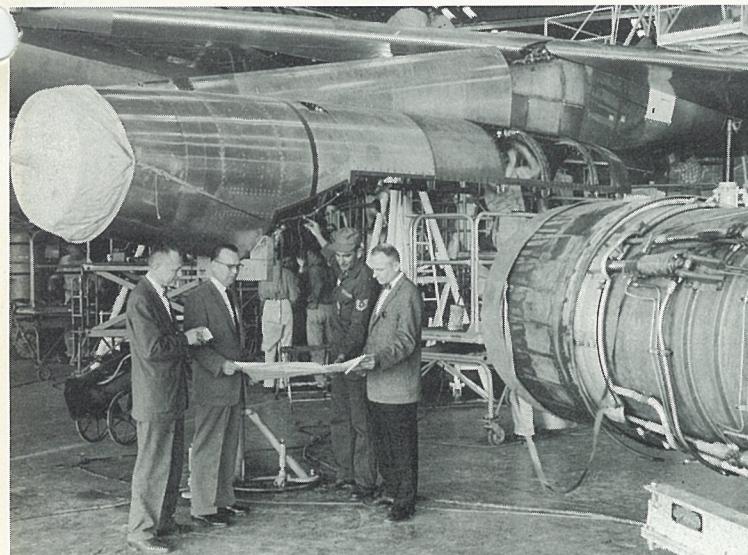
The beacon is claimed to be the latest development in lightweight, compact, and advanced airborne refueling systems.

## March 22 Meeting Selected For Award

Winner of the 1959 President's Award will be named at the March 22 meeting of the Convair FW Management Club at Ridglea Country Club.

J. V. Naish, Convair president, is scheduled to make the presentation.

Twenty-five Convair FW salaried employees, who amassed over \$2 million in installed savings during 1959 are eligible.



NO. 20 FLASHES UP—Second day in Convair FW's Junior Flash-Up program and Hustler No. 20 looked like this. Left to right, B. S. DeBusk, flash-up administrator; Bill Staley, inspection; T/Sgt. R. E. Martin, AF crew chief; and F. J. Balik, general foreman in field retrofits.

## No. 20 Is First Hustler To Complete 'Flash-Up'

Daily work, pre-planned for each individual involved in Convair Fort Worth's "Junior Flash-Up," sped the program's first airplane to on-time completion.

B-58 No. 20 was the first Hustler to complete the Junior Flash-Up updating process.

In all, five airplanes from Carswell Air Force Base test force are slated for the 10-day "facelift" treatment.

Dept. 96, field retrofits, is handling Junior Flash-Up, aiming at a double target—providing the Air Force with current configuration changes on the Hustler and reducing maintenance costs through new and unique work concepts.

B. S. DeBusk, Junior Flash-Up administrator, emphasized that the task is being facilitated by the "splendid support we're getting from every department in the plant."

Virtually all Convair FW departments are represented on the Junior Flash-Up "team."

"Extra high quality work standards are an absolute necessity for Junior Flash-Up," says development manager R. W. McGuffee, "since these airplanes will not be test flown by Convair after configuration changes are made."

DeBusk heads up a task control board which maps out program aims and maintains a running check on work progress.

"In this accelerated work we have to plan our schedule almost down to the minute," DeBusk said. "We've got to meet every deadline along the way if we're

to obtain our overall goals and get the airplanes back to Carswell on promised dates.

"We couldn't ask for better cooperation than we're getting from Carswell itself," DeBusk added, commanding the Carswell people on duty with the Flash-Up program.

Lt. Col. Billsy S. McCarty, deputy commander for maintenance at Carswell, is Air Force officer in charge of Junior Flash-Up. Crew chief is T/Sgt. R. E. Martin.

## Activation Near For First Wing Of SAC B-58s

Col. James K. Johnson, a double fighter ace in the Korean conflict, will fly a B-58 Hustler into Carswell AFB March 15, signaling official "transfer" of the 43rd Bombardment Wing from Davis-Monthan AFB in Arizona.

Colonel Johnson will serve as commander of the 1,800-man wing, first to be equipped with the Mach 2 Hustler.

On hand to greet Colonel Johnson will be a host of civilian and military guests.

Transfer of the 43rd will be mostly "on paper." About 1,200 people from the 3958th Operational Evaluation and Training Squadron now stationed at Carswell will be transferred to the 43rd.

"This leaves us about 600 people short," Colonel Johnson said. "With the activation of the 43rd Wing, we'll continue the buildup, reaching our ultimate strength of 1,800 Air Force personnel by the end of 1960."

"During the next year Carswell will become, from a population and equipment point of view, primarily a B-58 base," Colonel Johnson said. "The 43rd Bomb Wing will fill with the normal complement of B-58s."

"The training of mechanics and aircrews to man this and future SAC B-58 Wings will proceed according to schedule. The Wing will train people who will fly and maintain the aircraft."

"Once the Wing at Carswell functions as a combat-ready force, the school will continue to produce specialists for future SAC Wings."

(Continued on Page 8)

## FW Will Develop Reconnaissance System For AF

Convair FW has been awarded a letter contract from the Air Force to develop and flight test an advanced airborne reconnaissance system, Frank W. Davis, Convair vice president-FW manager, has announced.

The contract, when finalized, will total about \$8 million.

This all-weather reconnaissance system will utilize the most advanced radar and navigational equipment available.

A B-58 Hustler is scheduled to flight test the system in 1961.

"Subcontracts are being let," Davis said, "and engineering design of the system is under way."

"This is largely a research and development project to determine the feasibility of the concept."

G. E. Hinds in the advanced electronics group and J. C. Wilson of the B-58 project office are acting as project engineers on the

program at Convair FW.

Capt. L. K. Redmond from WADC, Dayton, Ohio, is now stationed at Convair FW as resident liaison project manager on this program for the Air Force.

As systems manager of the program, Convair FW will subcontract development of reconnaissance equipment to other companies, including Convair SD.

Convair SD electronics has already received a \$1 1/4 million subcontract for development of an airborne radar to be used in the advanced reconnaissance system. D. A. Graybill is project engineer for the program at Convair SD.

Convair SD electronics has been working since late 1956 on research, development, design, and manufacture of radar systems for North American's A3J, Navy carrier-based attack bomber.

## Tom Lanphier Resigns; Top Men Voice Regret

After nearly nine years as a Convair executive, Thomas G. Lanphier Jr. resigned last week for personal reasons, J. V. Naish, Convair president, announced.

Resignation of the Convair vice president and assistant to the president will be effective March 15.

"It is with deep regret, both personal and corporate, that I accept Mr. Lanphier's resignation," Naish said. "During his long association with Convair he was intimately associated with and made outstanding contributions to successful development of the Atlas, F-102, F-106, and B-58 programs.



Col. Johnson

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"Mr. Lanphier had a distinguished career as an Air Force pilot in World War II," Naish added. "He subsequently served as a special assistant for research and development to the Secretary of the Air Force, and

Tom Lanphier has rendered exceptional service both to Convair and to General Dynamics. I accept his decision to leave with deepest regret.

Frank Pace Jr.,  
Board Chairman,  
General Dynamics Corporation.

in recent years has occupied the presidency of the Air Force Association and the National Aeronautical Association. This unusual combination of experiences in all phases of air power uniquely qualified him for the responsible assignments he so effectively fulfilled on the Convair team."

Lanphier flew more than 100 combat missions in the South Pacific and shot down seven Japanese planes. Later, as director of fighter operations for the 2nd Air Force he flew combat missions in the European theater. Among his decorations are the Navy Cross, the Silver Star and Cluster, and the Flying Cross.

From May, 1950, Lanphier served as special assistant to W. Stuart Symington, chairman of the National Security Resources Board. He resigned from the board in 1951 to join Convair.

\* \* \*

## Lanphier's Parting Statement:

Nationally and internationally known as an outspoken supporter of strong U.S. defenses, this was Lanphier's statement following announcement of his resignation:

"As I understand democracy, an American who sincerely believes the nation is in danger, must in good conscience say so. In this vein, I feel strongly about what I believe to be the administration's underestimation of the Soviet military threat for the next three years. And I feel equally strongly about its concurrent overestimation of the strength and survivability of our own defenses during that same period.

"While I realize that many don't agree with me, I feel we

are well into, if not already past, that critical moment when our nation can still do something about maintaining a position of material strength from which to continue to work effectively for some measure of peace and freedom for ourselves and our children.

"This winter may be our last chance to act. Next winter could well be too late.

"As an individual, I want to continue to exercise my rights

(Continued on Page 8)



**WARM WELCOME**—Delta Air Lines' first 880 is receiving excited attention wherever it lands. Curious file through plane, as in above photo.

## Survival Kit For Dunked F-106 Pilots Tried Out by Hardy San Diego Souls

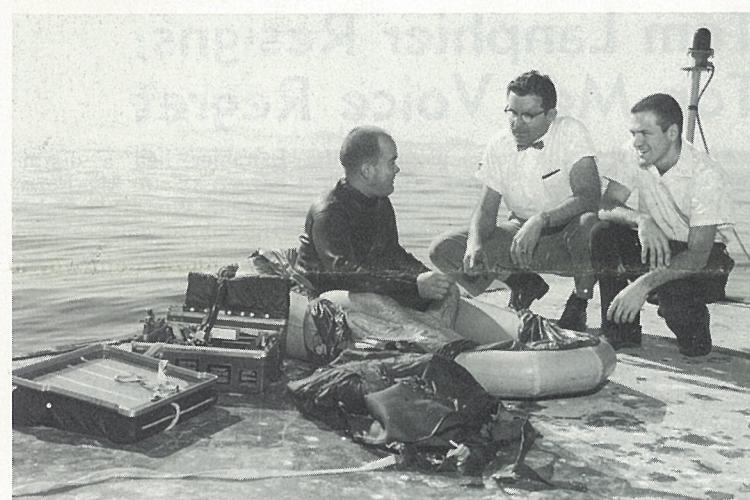
Convair San Diego dynamics laboratories' engineers have been "crash landing" into San Diego Bay recently during tests of the global survival kit which is going into production F-106s.

Jumping into chilly water loaded down with 71 lbs. of gear, combined weight of a packed parachute and attached survival kit, J. R. Donahue and Frank Brown, both Dept. 6, duplicated conditions which would face pilots forced to ditch their planes. The only difference was that pilots would be wearing their warm pressurized suits rather than the scanty rubber diving garb of the "guinea pigs."

As they hit the water, test engineers, playing the part of pilots, jerk a yellow handle on the right

side of the kit to trigger it into action. The top comes off, a life raft is automatically inflated, personnel leads (oxygen hose, communication and heater lines) separate from pilot's helmet, and kit and contents drop to the end of the 25-foot nylon tape attached to the parachute harness—out of the way of the plunging pilot.

By the time the pilot surfaces, the life raft is within reach. The kit top, a brightly-painted phosphorescent red shield which acts as a signal to searching aircraft, bobs nearby, still attached to the tape, or lanyard. Safely ensconced in the raft, the pilot can pull in, hand over hand, the kit with its "goodies" neatly packed in a waterproof sack.



**"SURVIVOR"**—Frank Brown of Convair SD dynamics lab, shows neat fit of rubber life raft during F-106 survival kit tests in San Diego Bay. Test engineers looking over kit contents are (center) Morris Walters, who directed testing, and Clarence Mascari.

## Prompt Action by Six FW Men Prevents Serious J-4 Fuel Fire

Quick action of six Convair Fort Worth employees, when they extinguished flaming J-4 fuel in something less than two minutes, merited personal letters of commendation from Frank W. Davis, Convair vice president and FW manager.

The fuel spilled on a hot tractor exhaust muffler behind a truck driven by T. Brown, Dept. 20-2. It ignited immediately.

Brown leaped from the truck and grabbed a fire extinguisher.

Rushing to his aid with other extinguishers were W. L. Fuller, F. W. Worden, J. H. Ridlehuber and C. E. Cofer, all of Dept. 20-2, and J. P. King of Dept. 64.

In about a minute and one-half the fire was virtually extinguished, with wrap-up safety measures being carried out by the fire department.



"I guess I'll just never understand people... Now what could we possibly have done to O'Brien to cause him to stop picking us up?"

Contents vary with terrain of air missions. For instance, planes sent over water are equipped with kits containing life rafts and fishing equipment, while those flying over wild mountainous areas have rifles instead of rafts. All kits contain radios, sun reflectors, flares, water purifiers, first aid supplies, concentrated foods. Main purpose of all kit assemblies is to help the pilot live off the land or water until he can reach civilization or is rescued.

The kit itself is a 19x19-inch square fiber glass case installed in the F-106 as the cushion of the ejection seat. With the foam rubber cushion it is about 10 inches in height. The kit goes with the pilot in normal ejection. After the ejection seat is separated from the pilot and his parachute opens, he drifts down to under 2,000 feet before pulling the yellow release handle to activate the kit.

An emergency oxygen supply in the survival kit provides the pilot with enough oxygen for breathing and pressurizing of his suit when he ejects at high altitudes. The kit's oxygen supply also can be used within the plane at any time it is needed by pulling the "green apple" knob, emergency oxygen manual release. The emergency supply, enough for 15 minutes, would last long enough for the pilot to get his plane, or himself, down to safe altitudes.

During Convair SD qualification tests, in progress the last two months, Donahue played the part of a pilot ejected from a plane. He swung in a parachute harness suspended from the rafters of the structural test laboratory building at the SD seaplane ramp to check out operation of the kit's mechanism while in a hanging position.

Other tests performed in the dynamics lab under direction of Morris Walters subjected the kit to environmental tests to see how well it would stand up under temperatures ranging from plus 175 degrees Fahrenheit to minus 65 degrees, and different levels of humidity. It was also checked for reaction to the plane's vibration and to the high gravity forces it would meet when ejected with a pilot's weight at high altitudes. The entire test program has been under supervision of H. B. Bard, components group assistant test group engineer of SD dynamics laboratories.

## Collegians Inspect SD Assembly Lines

Aviation-minded students at San Diego State College toured Convair San Diego's plants last month to get a first-hand glimpse of planes in the making.

Over 40 young men and women, members of the Arnold Air Society and Angel Flight chapters at State College, saw the Convair 880 mockup and production line at Plant 1 and F-106 final assembly area at Plant 2. They also were briefed on both Convair's jet transports and jet interceptors by customer service representatives in the customer training section.

## 'Silent' Flyby Amazes Crowd as 880 Flashes Across Finish at Miami

"I've never seen alligators and real estate go by so fast," B. F. Coggan, Convair vice president and San Diego manager, commented in describing how Delta Air Lines' first Convair 880 swept over the everglades and into Miami, Fla., recently to break the transcontinental transport speed record.

"To qualify for the speed record we had to be below 500 feet while passing the tower at Miami airport," explained Coggan, "and as soon as we reached the Florida coast the pilot (Capt. T. P. Ball) came down until he was almost flying 'on the deck.' "

Power on all the engines was reduced as the gleaming white 880 made its high speed low level pass over the airport so that the huge plane sailed like a silent shadow over the amazed crowds below. (The silent flyby is known in Convair parlance as the "Las Vegas," after the same maneuver proved so effective when first used at the World Congress of Flight in Las Vegas last spring.)

Then Captain Ball pointed the plane toward the sky to execute a steep climbing turn before coming back to land.

"Cheers were heard as the plane was opened at the ramp," recounted L. J. Bordelon, SD chief of transport service, also along on the delivery flight. "Hundreds clambered over every part of the plane during the stopover. A double check had to be made before we took off for Atlanta, Ga., to be sure no one was stuck in the engines!"

The Delta 880 reached Atlanta about 8 p.m. with everyone relaxed and enjoying the last leg of the flight, knowing that they had beaten the cross-country transport record by 27 minutes. Captain Ball apologized to those aboard for only going a little more than 600 mph because of turbulence.

Hundreds of Delta Air Lines families were on hand to greet the "Delta Queen." "Mothers, fathers, and children trooped in and out of the plane," Coggan recalled. "And I saw many of the youngsters make more than one trip through the plane."

During the fast San Diego-Miami flight the time actually dragged, Bordelon said. "Everyone was so keyed up and tense that each minute ticking away seemed like an hour."

"We tried to pass the time talking, but couldn't keep our minds off the clock."

According to Bordelon's log of the trip, 11 minutes after takeoff the plane was beyond the Laguna Mountains, out of the overcast, heading for 33,000 feet. Three minutes later it was still in the climb over the Salton Sea. At 10:30 a.m., just 19 minutes after leaving San Diego, the 880 passed over Yuma, Ariz. Fifteen minutes later coffee was served over

Gila Bend and Tucson whizzed beneath at 10:49 with the plane traveling at 738 mph, ground speed.

At 11:10, roughly an hour after takeoff, it was over El Paso, Texas. There the passengers had a chance to see an image of the aerodynamic shock wave, which appeared clearly visible on the left wing. "The sun was shining just right in the blue Texas sky," described Bordelon, "so that the shadow of the shock wave could be seen as a thin, dark, wavy line." This is a characteristic of high speed wings, but is not generally seen, and only the shadow is ever visible.

At noon the Gulf of Mexico was sighted and five minutes later the plane passed over Houston. There calculations were made, proving that "Texas is just 58 minutes wide," in the words of C. E. Woolman, Delta president.

At 12:30 p.m. the plane was south of New Orleans when favorable winds decreased. It took some eight minutes to cross the state of Florida, letting down for Miami all the way across.

"Ralph Bayless (Convair director of engineering) was on board checking fuel consumption," said Coggan, "and long before reaching Miami we knew we had plenty of reserves, even enough to go on to Havana, Cuba. We discussed going on, but decided not to as it would have negated our official transcontinental speed record."

Bordelon said that the Convair 880 flies just the way it looks—smooth! "Most noticeable features are its rapid response and fast acceleration. When the power was applied, we moved. It is extremely maneuverable, the kind of a plane pilots love."

"All in all, the whole trip was just like a scheduled flight—uneventful. The Convair 880 performed just the way it was supposed to!"

Daily reports received by Bordelon's office show that the 880 is now flying an average of eight hours a day in pilot training. Mel Clause, SD field service assistant supervisor, remained in Atlanta a short time to assist other Convair SD representatives, Robert Fitzgerald, Court Zeiss, and Walter Bellaston, with support operations.

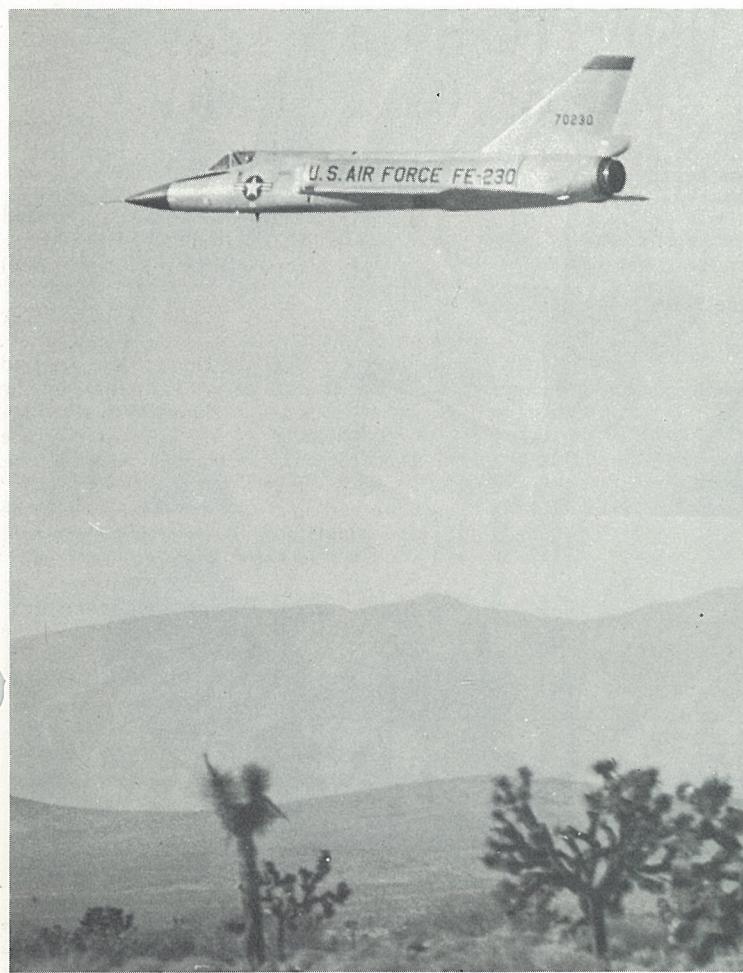
## SD Engineer Winner In Design Contest

Richard F. Summers, SD design engineer, has won an Award of Merit (\$100 and a certificate) from "Materials in Design Engineering Magazine" in a contest for best use of materials in product design.

Summers' entry involved Flex-Support door seals in the 880, a new design concept. Convair has filed for a patent on the device.



**DRAMATIC**—Flames from Atlas missile launch were only lighting used for this photo shot by Astro photographer Tom Mahnken. Men are Astro AFMTC employees at Cape Canaveral on standby duty. They are almost mile away from launch site, ready to return to perform tasks as needed.



**SKIMMING**—F-106 flashes past camera at more than 700 mph on low level run. At one point plane was below sea level, at another at 8,000 feet while skimming mountains.

## At 700 mph, F-106 Skims Tree Tops in Test Dash

A Convair F-106, world's fastest jet aircraft, has demonstrated its low-level striking capability by skimming at tree-top height over 300 miles of Southern California desert at 700 miles an hour.

The flight was made during a test mission from Edwards Air Force Base by C. E. "Chuck" Myers, Convair engineering test pilot.

Substantially all of the flight was made in turbulent air at elevations of 50 to 300 feet above the surface. Averaging 700 mph,

the plane dipped 100 feet below sea level crossing Death Valley, climbed to 8,000 feet crossing the Panamint Mountains.

Myers said the flight demonstrated the plane's suitability for low-level tactical missions as well as its normal interception missions at stratospheric altitudes and Mach 2 speeds.

The low-altitude flight was made under the most adverse conditions. The F-106 carried empty external wing fuel tanks for drag effect. The aircraft's automatic damper control system was turned off. Instrumentation and ballast brought weight up to the battle-ready operational total.

"The ground went by in a blur," Myers said. "The hot desert air caused a lot of turbulence, but the plane handled well. It carried a 16 mm. movie camera in the cockpit to record the flight. I loaded and unloaded it six times during the mission."

On Dec. 15 the U.S. Air Force supersonic all-weather jet interceptor set a high-altitude world speed record of 1525.95 miles an hour at Edwards Air Force Base.

The F-106 has been going into operational squadrons of the North American Air Defense Command since last July.



**SKIMMER**—C. E. (Chuck) Myers, chief test pilot at Edwards AFB for Convair, was at controls on low-level F-106 flight.

## Siren's Shattering Screech Shakes H--- Out of Materials in SD Test For Pure Noise, Fire Engines Put to Shame

A noisy siren, many times more powerful than the loudest fire engine siren, has determined construction of material going into parts for Convair's jet transports.

Various types of honeycomb panels have been undergoing sonic vibrations at Convair San Diego's siren facility at the SD seaplane ramp. The vibrations are strong enough to shatter an ordinary piece of aluminum in less than two minutes. The research and development program, directed by SD dynamics section of engineering, has been underway during the last two years to determine the most fatigue resistant core materials, in relation to weight.

Results have been applied to design for trailing edges of Convair jet transports, said G. L. Getline, SD design specialist. He explained that trailing edges of present-day jet transports, located immediately behind engine nozzles, must be able to withstand high frequency vibrations from sound pressure generated by jet engine exhausts.

Sound pressures during a plane's takeoff and climb-out, when maximum power is used, are duplicated in SD's test facility operated by dynamics laboratories' test engineers. A giant 200-gallon sphere forms the plenum chamber to maintain constant pressure. Air is funneled through the chamber into the "chopper" which, with its slotted, rotating

discs, breaks up the air into "bubbles" to produce different levels and frequencies of sound pressure.

Test panels, clamped into a frame, form the top side of the flattened horn. Thus, they receive full force of sound waves as they sweep across the bottom surface.

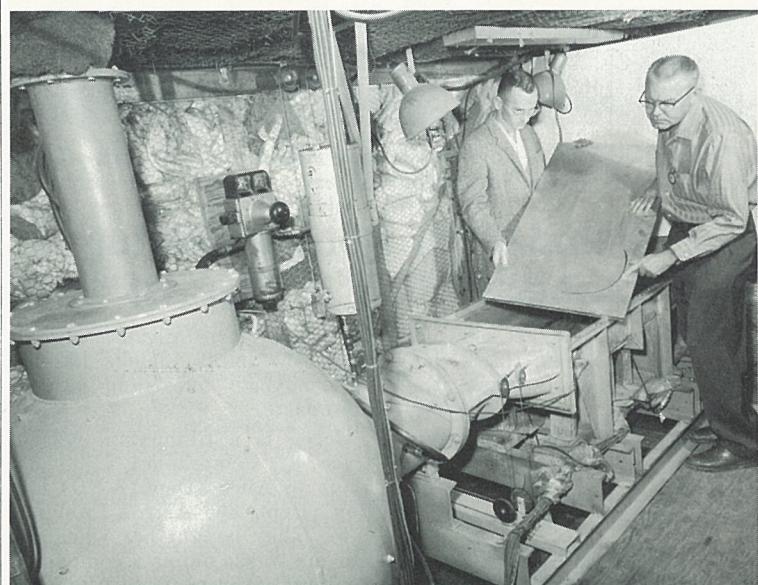
Waves from the vibrating panels are so severe, say test engineers, that no one could stay within the small dugout structure during tests without suffering hearing or other physical damage. The pressures, extreme enough to shatter high-tensile bolts, could, in certain circumstances, cause human blood to boil.

Panels each go through about 15 hours of punishment, equivalent to 10,000 hours of actual use on a plane. Microphones under test specimens and strain

gauges on the panels relay reactions to a control room on the hill above the siren.

Designed and constructed in the San Diego plant for a general sonic vibration test program, the siren has been operated by Harvey M. Ingalls of SD dynamics lab ever since it was installed. P. A. Kinzie, test engineer, has been directing the current series of panel tests. Evaluation of test results is made by dynamics engineers under direction of Getline and recommendations made to the wing and tail design group of engineering.

Besides Convair's own test program, subcontract work for other aircraft companies during the last year has seen panels tested for North American Aviation's proposed F-108 and B-70 as well as the A3J Navy bomber, now under construction at the Columbus, Ohio, division.



**NOISEMAKER**—Harvey M. Ingalls of Convair SD dynamics lab (at right) points to mark outlining crack in honeycomb panel caused by sonic vibrations during testing program at SD seaplane ramp facility. Large chamber in foreground serves as siren with panel forming one side of flattened "horn." Phil A. Kinzie (left) was in charge of testing.

## Camouflage of World War II Recalled by Excavation Work

Excavation for foundations of Convair's new cafeteria at San Diego recently brought to light long-forgotten vestiges of World War II.

Large concrete blocks, 12x12x12 feet in size, were discovered in several locations a couple of feet below the surface in the area next to the General Office building where the cafeteria is being built.

Oldtimers in the plant remember when the blocks were used to anchor cables for the overhead camouflage which turned the SD plant environs into a peaceful "countryside" from the air. The painted camouflage (netting over wire mesh) went up in 1942 as protection from possible air raids during the war. After there was no more use for the concrete anchorages, they were covered over and forgotten. The site was black-topped and used as a parking lot until it was chosen as location of the new cafeteria.

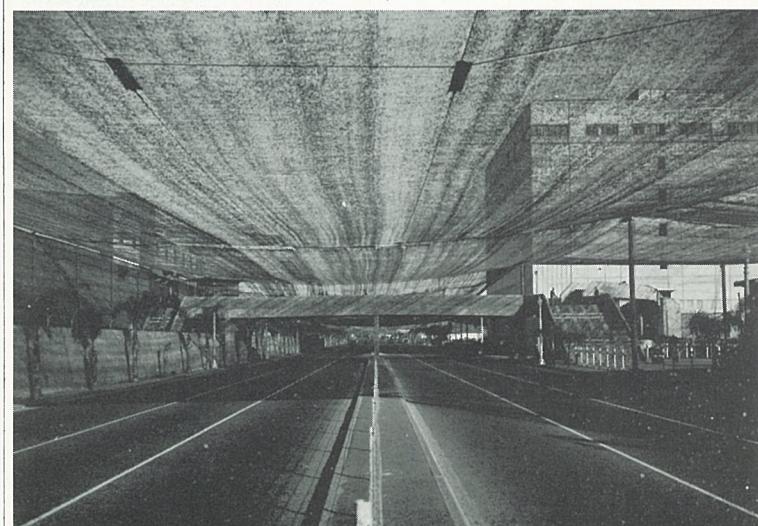
So far, said H. A. Smith, SD chief plant engineer, ten of the huge blocks have turned up during ground work for the cafeteria building. Only one has had to be removed completely — the one which was in the exact spot marked for the food service elevator pit. Others have been channeled through wherever necessary for foundation work or underground plumbing.

Unless work should be held up by spring rains, the cafeteria will be completed as scheduled by the first of June, Smith said. All foundations were to have been poured by this week.

First foundation to be laid was that for the east wall which was poured the first of last month.

"The building will be going up fast as soon as work gets above ground," Smith said.

Construction is being done under a joint contract by Anthony Rossi and Chula Vista Electric.



**BACK IN 1944**—This was how Pacific Highway looked at Convair SD during World War II. Overhead netting was designed to camouflage plant from air attacks that never materialized.



**WELL EQUIPPED**—Roy Cunningham shows off pet dogs. Small one really has mouth full of teeth.

## Cocoa, Pup With Double Dentures Threatened by Trip to Dentist

"Cocoa" likes to get her teeth into things. Shoes, table legs, chairs, dog food, you name it.

And "Cocoa" is a little better "equipped" than most seven-month-old pups. She has two sets of teeth!

Two rows of uppers and two

rows of lowers gleam brightly when she barks. Looks like an "overplayed" television ad for toothpaste.

Cocoa is a Chihuahua with a trace of Pomeranian. She belongs to Alice (Dept. 8 SD) and Roy (Dept. 305 Astro) Cunningham. They bought her when she was six weeks old as a companion for their seven-year-old "Caniche" poodle, Pierre. Now Cocoa rules the roost, Pierre included. She sleeps in a cradle of her own and gets tucked in at bedtime.

Most pups shed their baby teeth between two and three months. Cocoa didn't. Her permanent teeth came in right below the others. An animal doctor told the Cunninghams this is rare, indeed.

Cocoa doesn't seem to mind. She goes right on chewing away, both sets working smoothly.

But the pup may be faced with a painful experience—a date with a dentist. Doctor's orders. Unless the baby teeth fall out on their own, she must have them pulled when she's nine months old.



**TOOTHY**—Cocoa opens wide for camera, showing both permanent and baby teeth.



**HONORS**—Shown at Omaha during "Spur" award presentation to Convair's T. G. Lanphier Jr. are, from left, Paul Hurley, H. L. Montgomery, Frank W. Davis, Arthur C. Storz Sr. (who made presentation), Lanphier, Ross C. Wills, Earl B. Newton, R. H. Widmer, W. C. Keller.

## 'Spur VIP Award' Goes to Tom Lanphier; Civic and Military Leaders Attend

Thomas G. Lanphier Jr. joined some distinguished company in January when he received the "Storz VIP Spur" award at a dinner in Omaha, Neb., attended by military and civic officials.

The award was made by Arthur C. Storz Sr., prominent Omaha businessman and civic leader, to the Convair vice president for

having "won his spurs for outstanding performance in behalf of national defense."

Others who have been so honored for distinguished service to the country include: James Doolittle, Curtis LeMay, Eddie Rickenbacker, Robert Taylor, Jimmy Stewart, Jacqueline Cochran and Arthur Godfrey.

Throw in Dink Stokes' tenure and you come up with nearly 70 years of Stokes service with Convair.

## 'Average' B-58 Pilot A Veteran of Flight

The "average" B-58 Test Force pilot is 37 years old, has a wife and 2.8 children, and has had 17 years of service in the Air Force.

These figures were reported in Carswell's Aerospace Sentinel by Airman First Class Charles H. Ali, who handles flight records for pilots in Carswell's B-58 Test Force.

Further, Ali reported, the average pilot is a member of the regular Air Force, started flight training in 1942, flew a tour of combat in Europe or the Pacific between 1943 and 1945, and has made 11 "permanent" changes of station.

## Electronics Items Shown at National Conference of IRE

Microwave items under development by Convair San Diego electronics were on display last month at the annual national conference of Institute of Radio Engineers' military electronics professional group in Los Angeles.

B. D. Skillman of electronics requirements, in charge of West Coast activities, arranged the SD electronics booth showing new concepts in antennas and wave guides now in the development stage by Convair SD electronics engineers.

A photographic panel depicted the wide range of Convair-made electronic articles and the colored motion picture, "Electronics Capability," was run continuously throughout the three-day exhibit.

Several SD electronics engineers manned the booth during the conference. Among other Convair men taking active part in the sessions was P. D. Ferrara of Astronautics, chairman of the reliability section.

## Convairity Story Stirs Swedish Reply

A Convairity story concerning the Fort Worth Chapter, Society of Technical Writers and Editors, brought an international reaction recently.

Etienne J. Guerin, Stockholm, Sweden, magazine editor, read the story in Convairity's Mail Edition, and wrote to the chapter's Johnie Herbert (FW Dept. 6-5), expressing interest in establishing contact.



**TASK FORCE**—Dressed for winter weather, Convair SD and General Electric crew in Minnesota for Convair 600 pod anti-icing system tests are from left (lower shot): Karl Cardon, G.E.; Dick O'Neill, L. E. Roberts, George Lutz, Vernon Booth, Ross Anderson, G.E., Bill Michael, and (kneeling) Fred Hekking. In upper photo, Booth of SD propulsion design stands beside G. E. aft fan engine in pod test stand which he helped design. Two flatcars transported test equipment from San Diego plant to Hopkins, Minn., test site.

## 35-Degree Weather Too Warm For Jet 600 Pod Icing Tests

Half a dozen Convair San Diego engineers and technicians are home in San Diego sunshine after two months' wishing for zero weather.

The SD crew, in Minnesota for cold weather testing of the Convair 600 pod anti-icing system, say that now they really can sit back and enjoy warm weather instead of anxiously watching thermometers as the mercury crept upward to the "too-hot" point of 35 degrees.

In fact, the Minnesota winter was so "warm" that many times Convair engineers assigned to the task had to get up in the middle of the night to run tests. They started work at 3 or 4 a.m. at the coldest time of the night when temperatures would drop to a low of 15 degrees. By 9 a.m. the sun would warm things up too much to continue.

"We had a few 'good' days when it was down to zero," said Dick O'Neill, thermodynamics engineer.

The test site at Hopkins, Minn., a small country town about 20 miles southwest of Minneapolis, was chosen because of its accessibility, explained Dean Bowden, thermodynamics supervisor. Cold weather tests on the 880 engines and pods, as well as other Convair planes, were conducted on Mt. Washington, N.H., where the weather is foul enough, but often so much so that the site is cut off from the rest of the world. This caused delays, when parts or men couldn't get in or out.

Tests involved spraying droplets of water, such as make up cloud formations at below freezing temperatures, on the 600 pod. Without heat, as much as two or three inches of ice would form. However, the Convair-developed anti-icing system proved it could keep the surface warm enough to evaporate the droplets before they could freeze. Aside from weight, freedom from ice is important to prevent possible power plant damage from chunks sucked into the engine fan and compressor.

Returning last week as tests ended were: Fred Hekking, thermodynamics engineer (whose wife and child accompanied him to Minnesota); O'Neill; William Michael of thermodynamics lab; L. E. Roberts and George Lutz, Dept. 31 technicians. Vernon Booth of SD propulsion design, who was responsible for design of the 600 pod test stand, came back earlier.

## Veteran Convair Man Retires But Leaves Sons to Carry On

Dink Stokes, 67, retired at Convair FW in February following over 16 years of service in Dept. 20-2 (traffic).

But his memory—and three of his sons—lingers on.

Matter of fact, the Stokes family has become somewhat of a Convair institution. Dink and his five sons have logged a total of nearly 70 years with Convair.

L. D. Stokes, Dept. 30, came to Convair FW in 1942 and has remained ever since. Before that, he put in nearly two years at San Diego.

J. H. Stokes, Dept. 64, was also on hand "when the doors were opened" at Convair FW. His service totals nearly 18 years.

Then there's B. L. Stokes, Dept. 82, who has amassed 12 years' service with Convair FW, interrupted only by a brief stint in the Merchant Marine.

Two other Stokes sons saw brief service with Convair.

Aubrey D. Stokes, now an attorney in San Angelo, served two years in purchasing at San Diego before a hitch in the Navy.

The youngest of the Stokes clan, Gene of Dept. 31, served two years at Convair FW before serving in the Air Force. He's now employed by another aircraft firm.

Throw in Dink Stokes' tenure and you come up with nearly 70 years of Stokes service with Convair.



**REUNION**—Dink Stokes, seated center, who retired at Convair FW, gets together with five sons, left to right: L. D., J. H., Gene, Aubrey, and Bill. Stokes family has chalked up total of nearly 70 years service with Convair.

## NEWS FROM OTHER DYNAMICS DIVISIONS

General Dynamics Corporation, created in April, 1952, as successor to Electric Boat Company, is composed of seven divisions and a Canadian subsidiary, Canadair Limited, of Montreal, airframe builders. The divisions are:

Convair, head offices at San Diego, Calif., aircraft, missiles, and space systems.

Electric Boat of Groton, Conn., submarines.

Stromberg-Carlson, of Rochester, N. Y., telecommunications, electronic equipment.

Liquid Carbonic of Chicago, Ill., carbon dioxide producer, industrial and medical gases.

General Atomic of San Diego, Calif., nuclear research, development, production.

Electro Dynamic of Bayonne, N. J., electric motors, generators.

Material Service Division, Chicago, Ill., building materials, concrete products and coal.

## Stromberg-Carlson Will Build Project Mercury 'Nerve Center'

SAN DIEGO—Stromberg-Carlson here has been selected to design, build and install the vital monitor and control display system for Project Mercury.

Project Mercury's objectives are to put this country's first manned space capsule into orbital flight around the earth, investigate man's capabilities in the new environment and recover the capsule and the man safely. The display system will serve as the "nerve center" for the project.

Director of Stromberg-Carlson's participation for the project is Roy C. Ritchart, systems manager.

Stromberg-Carlson, under sub-

contract to Bell Telephone Laboratories, will install the system in the National Aeronautics and Space Administration control center at Cape Canaveral.

The center will display information about the flight gathered from a world-wide network of tracking and telemetry stations.

Data inputs such as the astronaut's heart rate, blood pressure, and body temperature; and the capsule's oxygen pressure, acceleration rate, attitude and route determination will be fed into the center and visually displayed.

The monitor and control display system will be housed in a room 40 feet wide by 60 feet long.

## Support of Weapon Systems Discussed by Panel at SD

SAN DIEGO—Convair San Diego played host to delegates from other Convair operating divisions, and Stromberg-Carlson and Electric Boat Divisions at a two-day panel meeting on Weapon Systems Support, Feb. 23-24.

Discussions included talks on training devices for the B-58 and F-106, Atlas field facilities, Terrier checkout facilities aboard new ships. San Diego electronic

engineers spoke on testability as a major design criteria and on radar systems now in production at San Diego. Final item on the program was a showing of the film, "Terrier Handling Aboard Ships."

Electric Boat and Stromberg-Carlson Divisions were represented for the first time at the symposium, held every few months by members of the standing committee. They brought information on Electric Boat's development of the submarine simulator and ground support at Stromberg-Carlson.

The last meeting of the group was held last fall at Convair Fort Worth.

J. J. Wheeler, SD senior group engineer in support planning and design, acted as chairman for last week's meeting. Others attending were R. J. Lutz, Convair assistant to vice president-engineering; A. H. Muir, Convair staff systems analyst; F. L. Cook, N. E. Armstrong, J. E. Bowen, H. J. Stuart, C. S. Brandt, J. G. Wenzel, all of Convair San Diego; M. S. Roberts, R. W. Wollenweber, D. R. Rutland of Convair Pomona; A. H. Gross, K. E. Coughlin, T. G. Fleming, W. E. Barnes of Convair Astronautics; R. W. Geis, W. R. Swaim, and N. G. Hartwell, Convair Fort Worth; H. N. Bowes of Electric Boat; and R. D. Braggins and L. C. Eisaman of Stromberg-Carlson.

Astronautics employees may contact Eric Callard, ext. 3395; Reggie Sanchez, ext. 1072, Plant 2; or Walt Dibblee, ext. 1171, for tickets. At San Diego they are available through Sammy Petcher, ext. 778; Glenn Gibbons, ext. 719, Plant 2; Roger Serrano, ext. 641, Plant 2; or Jerry Knauss, ext. 2110 at Rose Canyon.

The meet is open to San Diego and Astronautics employees.

George Coleman of the Naval Electronics Laboratory will speak on "Mechanical Impedance" and officers will be nominated from the floor.

Contact J. E. Dorsch, ext. 2277, or Dick Donohue, ext. 1813, both at Astro, for information.

**Coburn Speaks At Symposium**

"Reliability—A Key to Progress" was the title of a presentation made by J. L. Coburn, reliability projects administrator at Convair FW, before a recent engineering symposium in Syracuse, N. Y.

Jointly sponsored by Syracuse University and the American Society for Quality Control, the symposium is an annual event.

Coburn's presentation is part of a series scheduled by Convair FW's reliability management department aimed at furthering recognition of the importance of reliability in today's missile and aircraft manufacturing.

Later they conferred with F. R. Chambers, manager of FW industrial relations and security, and I. B. Hale, chief of FW industrial security. They are on a six-month U.S. trip studying police methods.

Twenty Air Force officials met with Convair SD personnel from service publications, service engineering, flight test, and engineering to examine all flight manual material in the light of latest information.

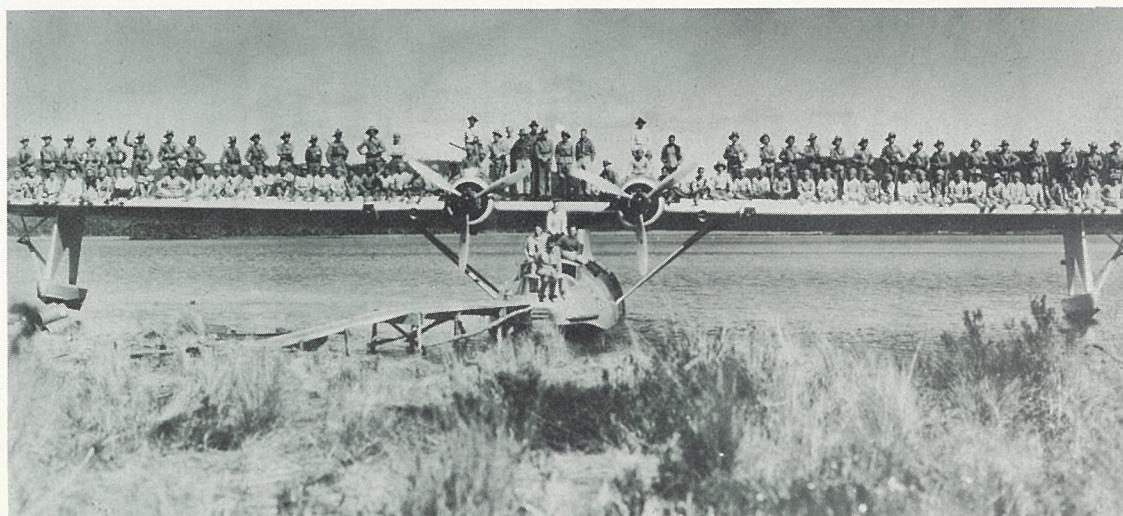
Conference chairman was J. F. Kneubuehl, Flight Operating Instructions Branch engineer from WADD Headquarters, Wright-Patterson AFB, Ohio. Other team leaders were Capt. W. S. Seufert, SAAMA, San Antonio, Texas; Maj. W. W. Moore, ADC Headquarters, Colorado Springs, Colo.; Capt. M. O. Detlie from Director-Flight and Missile Safety Research, Norton AFB, Calif.; Maj. N. D. Flack, F-106 Weapon System Project Office, WADD; Capt. H. C. Gordon and Capt. R. A. Rushworth from AF Flight Test Center, Edwards AFB, Calif.

According to H. R. Kennedy, chief of service publications at SD, revised editions of the F-106 flight manuals containing the latest Air Force views on flight safety and operation will be in the hands of F-106 squadrons by early summer.

## Nuclear Applications Manager Appointed

SAN DIEGO — Titus G. LeClair has been appointed manager of nuclear power applications for General Atomic Division. He will join the division this month, coming from Chicago where he has been manager of research and development for Commonwealth-Edison Co.

LeClair is a recognized leader in the development of nuclear power for central station generation of electricity.



**EXPLORERS**—PBY proved able prop for photo taken at Lake Habbema in Dutch New Guinea interior, 11,000 feet above sea level. Lined up on wing in back row are Dutch soldiers; crouched in front are native Dyak (name of tribe) carriers. Between engines, on wing, are Dutch and American scientists. Crew members are sitting on nose.

## World Circling Guba an Example Of PBY's Workhorse Dependability

(This 29th installment in continuing history of Convair deals with spectacular career of a globe-circling PBY.)

For tough, workhorse dependability over a long period of years, the PBY had few equals. This was demonstrated by the earliest commercial versions, which carried the boat's name into the Arctic and around the world. The first was built in 1937 for Dr. Richard Archbold, leader of an American Museum of Natural History expedition to Dutch New Guinea. He named the boat "Guba," a Motu word meaning "sudden storm."

After test flights to Boulder Dam and Lake Tahoe, Archbold departed San Diego June 24 on

### Dr. Rust Will Speak At Dinner Meeting

Dr. William Rust, president of California Western University, will speak before a March 14 dinner meeting of the San Diego Section, American Society for Quality Control, at the Lafayette Hotel.

Astronautics employees may contact Eric Callard, ext. 3395; Reggie Sanchez, ext. 1072, Plant 2; or Walt Dibblee, ext. 1171, for tickets. At San Diego they are available through Sammy Petcher, ext. 778; Glenn Gibbons, ext. 719, Plant 2; Roger Serrano, ext. 641, Plant 2; or Jerry Knauss, ext. 2110 at Rose Canyon.

### Environment Group Organizes at SD

The recently organized San Diego chapter of the Institute of Environmental Sciences will hold a 7 p.m. meeting March 9 at the Lafayette Hotel.

The meet is open to San Diego and Astronautics employees.

George Coleman of the Naval Electronics Laboratory will speak on "Mechanical Impedance" and officers will be nominated from the floor.

Contact J. E. Dorsch, ext. 2277, or Dick Donohue, ext. 1813, both at Astro, for information.

### Greek 'FBI' Officers Visit Convair FW

Two lieutenants of the Greek Royal Gendarmerie, counterpart of the FBI, visited Convair Fort Worth recently and were impressed by the B-58 during a plant tour conducted by C. E. Doering, supervisor of industrial security and investigation.

Later they conferred with F. R. Chambers, manager of FW industrial relations and security, and I. B. Hale, chief of FW industrial security. They are on a six-month U.S. trip studying police methods.

**Is It News?**  
Call Convairity

the first transcontinental flight ever accomplished by a flying boat. He landed at New York 17 hours, 3½ minutes later.

In August Archbold agreed to sell the first Guba to the Russian government, which was organizing a search for Soviet aviator Sigismund Levanesky, missing with his crew on an attempted transpolar flight. Sir Hubert Wilkins, the English explorer, was retained by Russia to head the search. He took Guba from New York to an operating base a hundred miles north of the Arctic Circle, at Aklavik in the Canadian Northwest Territories. Between mid-August and Sept. 18, the seaplane flew 19,000 miles in a fruitless hunt over largely unsurveyed territory. (The aircraft eventually was taken to Russia.)

Meanwhile, Archbold took delivery on a second Guba and the transpacific flight started from San Diego June 2, 1938. Archbold flew to Pearl Harbor in 18 hours, 3 minutes; hopped to Wake Island on June 6; and on June 9-10 made a passage through unflown skies to Hollandia, New Guinea. During the next 11 months Guba made 168 flights and carried more than 280 tons of supplies to expedition field camps in the interior. Many of the landings were made on Lake Habbema, 200 miles inland and 11,000 feet above sea level.

While the New Guinea work was nearing an end, the Australian and British governments enlisted Archbold's participation in a survey of an air route across the Indian Ocean, which had never been flown.

After installation of new engines shipped from San Diego, Guba left Hollandia May 12, 1939, and flew to Sydney via Port Moresby and Townsville. From Sydney the boat flew non-stop across Australia to Port Hed-

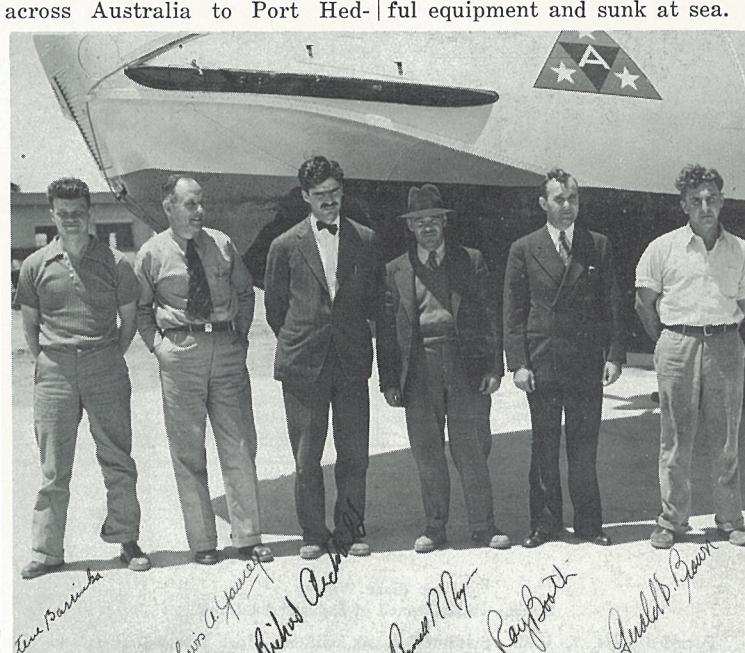
lund, the jumping-off point. The survey was carried out with stops at Cocos Island, Direction Island, Diego Garcia and Mahe. News of the boat's arrival June 21 at Mombasa, on the Kenya coast, stirred interest throughout East Africa.

Heading homeward, Guba bridged Africa in two hops, letting down on Lake Victoria and on the Congo River at Coquilhatville. On June 29-30 it made an overwater flight of 3,190 miles from Dakar to St. Thomas in the West Indies (time, 19 hours, 33

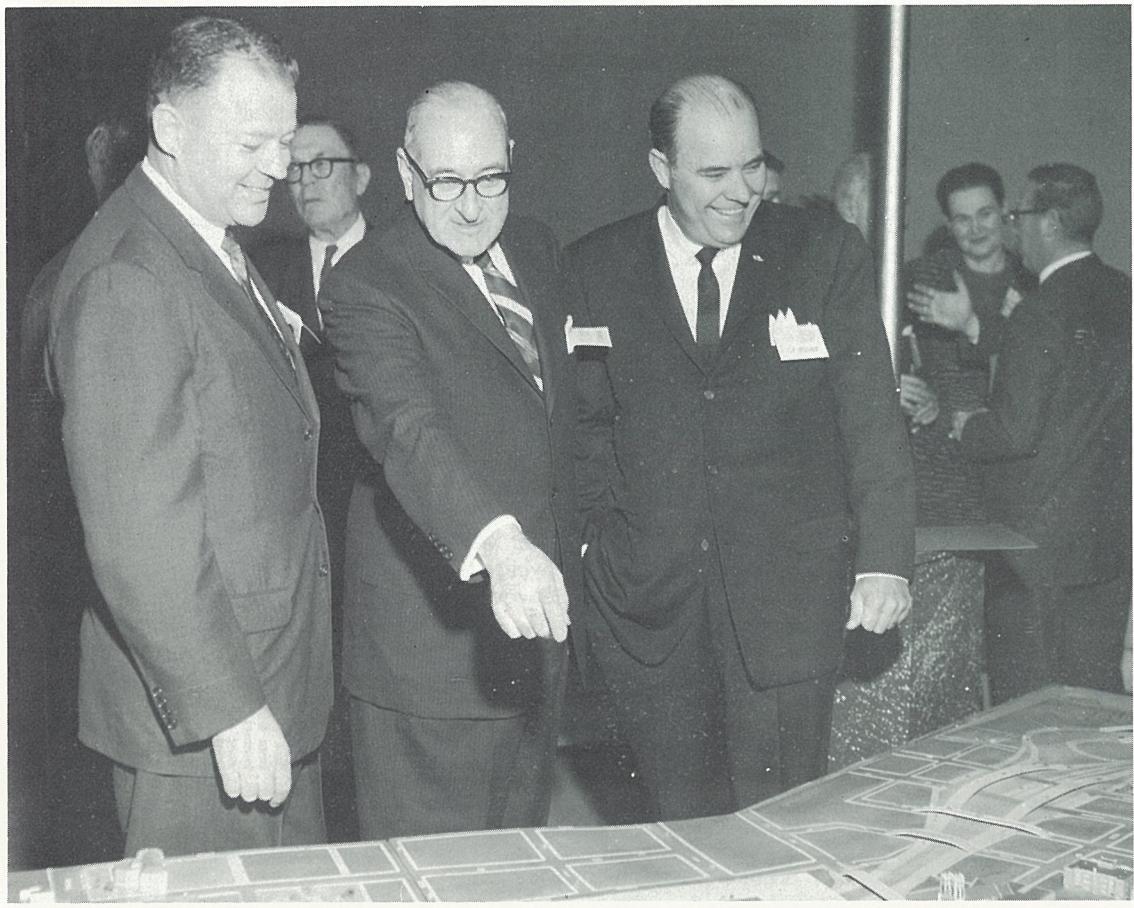
(Steve Barinka, co-pilot on Guba's trip around the world, is still with Convair, as SD superintendent of field operations. He remembers the trip as a thrilling experience, but without major incident.)

minutes). The next afternoon Guba landed at New York and Archbold and his crew were whisked off to the Aviation Building at the World's Fair for an official welcome. Guba returned to San Diego Bay July 6, completing the first round-the-world flight ever made by a seaplane, and the first made by any aircraft at the globe's largest diameter.

Years of hard service still lay ahead for Guba. The British Purchasing Commission bought the boat in 1940, and on Oct. 25 it took off from Newfoundland on a 16½-hour flight to Scotland. It spent three years in Africa, flying a shuttle run for British Overseas Airways. In 1944-45 it was used as a utility plane by Saunders-Roe, Ltd. Then it was turned over to the Ministry of Aircraft Production and sent to North Wales for several years' use in testing flying boat moorings. Finally Guba sank in a gale, was raised, stripped of useful equipment and sunk at sea.



**AROUND THE WORLD**—Members of second Guba crew who made scientific expedition to Dutch New Guinea, eventually completing round-the-world flight at globe's largest diameter, pose at Coast Guard Ramp in San Diego prior to departure June 2, 1938. From left: Steve Barinka, co-pilot and flight engineer; Lewis Yancey, navigator; Dr. Richard Archbold, expedition leader; Russell Rogers, captain; Ray Booth, radio operator; and Gerald Brown, flight engineer.



FUTURE FORT WORTH—City Manager L. P. Cookingham points out features of future Fort Worth on "model" to Frank W. Davis, Convair FW vice president-manager, left, and Mayor Thomas A. McCann, right, at February Management Club meet.

## Convair Folk Can Play Big Part in Future FW Cookingham Tells Management Club Members

Fort Worth is getting its fiscal house in order to meet the demands of a population growth that will push the nose count here to at least 560,000 during the '60s, City Manager L. P. Cookingham told a Management Club "Civic Night" gathering. About 500 attended the February meeting at Ridglea Country Club, sponsored by spares department. Mayor Thomas A. McCann and city councilmen were among the guests.

"You Convair people can give us some of the vital leadership we'll need during this explosive period," Cookingham said. "Convair's 17,000 to 18,000 employees represent about 60,000 people—or about 15 per cent of Fort Worth's total population."

"What a dynamic leadership force this can be."

"Long-range planning is as essential to Fort Worth as it was to you people at Convair in building your marvelous B-58," Cookingham said.

Mayor McCann presented a plaque to Management Club President C. C. Utley in token of the club's outstanding Fix-a-Toy project last year.

Frank W. Davis, Convair FW vice president - manager said: "Fix-a-Toy volunteers spent 22,000 manhours of their own time on the project last year. They provided about 120,000 toys to some 3,500 kids."

Davis also praised the efforts of Junior Flash-Up personnel, who turned the first airplane into the program around ahead of schedule.

The Texas Boys' Choir offered entertainment for the evening.

### Deaths

FRANKLIN—Mrs. Leora P., Dept. 19, died Feb. 19. Survivors include her parents, one brother and one sister.

SWARTZ—E. N., Dept. 65, died Feb. 22. Survivors include his wife, two sons, two daughters, his father and one sister.

TEAGUE—D. V., Dept. 54, died Feb. 18. Survivors include his wife, four sons, one daughter, his parents, two brothers and one sister.

ROBINSON—T. H., Dept. 20, died Feb. 24. Survivors include his wife, two sons, one daughter, his father and one sister.

DEPT. 65: to assistant foreman, G. W. Edwards Jr.; I. K. Roberts; Dept. 89, to cost analyst, R. W. Wheeler; Dept. 96: to assistant foreman, M. M. Nelson; to general foreman, F. J. Balik.

## Log Book Entries

### Promotions

**FORT WORTH**  
Promotions to and within supervision, professional and administrative effective February 15:

Dept. 6: to aerophysics engineer, H. F. McWilliams; to associate engineer, J. C. Green, A. L. Ribe; to design engineer, D. L. Suiter, J. D. Watts; to design engineer senior, H. M. Abdo, W. B. Frye Jr., L. C. McWhorter, C. Wilson; to nuclear engineer senior, W. C. Beggs.

Dept. 7: to development liaison man, G. R. Wylie; Dept. 21: to spares representative, C. T. Allen, R. L. Buckalew, R. R. Hutchinson.

Dept. 65: to assistant foreman, G. W. Edwards Jr., I. K. Roberts; Dept. 89, to cost analyst, R. W. Wheeler; Dept. 96: to assistant foreman, M. M. Nelson; to general foreman, F. J. Balik.

### Retirements

BLEDSOE—M. L., Dept. 32. Seniority date Oct. 31, 1955 (FW), retirement effective February 27. 4817 Mayfair St., Fort Worth, Texas.

BRIDGER—I. L., Dept. 14. Seniority date Nov. 16, 1942. 2916 Bomar, Fort Worth, Texas.

GOODE—A. L., Dept. 46. Seniority date Dec. 3, 1946 (FW), retirement effective February 25. Rt. 12, Box 184, Fort Worth, Texas.

HENSON—B., Dept. 4. Seniority date Oct. 21, 1943. 1233 W. Spurgeon, Fort Worth, Texas.

JOHNSTON—J. D., Dept. 22. Seniority date Nov. 25, 1946. 607 Worthview, Fort Worth, Texas.

LOWE—S. B., Dept. 31. Seniority date March 24, 1943 (FW), retirement effective February 18. 3013 E. Lancaster, Fort Worth, Texas.

NASH—R. C., Dept. 46. Seniority date Feb. 10, 1943. Rt. 1, Springfield, Texas.

POMEROY—B. B., Dept. 25. Seniority date Sept. 29, 1952. Box 244, Springtown, Texas.

SLAY—W. M., Dept. 14. Seniority date Oct. 8, 1943. 1303 Hillcrest, Graham, Texas.

TAYLOR—N. P., Dept. 59. Seniority date July 8, 1943 (FW), retirement effective February 26. 904 N. Trinity, Decatur, Texas.

WALKER—W., formerly Dept. 54. Seniority date Oct. 15, 1947. Box 61, Boyd, Texas.

WILLIAMS—J. G., formerly Dept. 32. Seniority date Dec. 3, 1946. 3124 Edgehill Rd., Fort Worth, Texas.

### Hitchhikers

Riders Wanted From  
Sansom Park and North Beverly Hills,  
8 a.m. shift, call MA 6-8944.

Seminary Dr. near S. Expressway and  
loop 217, 8 a.m. shift, call G. B. Norris,  
WA 7-2217.

Halton City, 3:45 p.m. shift, call R.

H. Wood, TE 3-3885.

MEADOWBROOK HANDLEY area, 7

a.m. shift, call W. M. Hightower,  
JE 6-1685.

Ride Wanted From  
N. Richland Hills, 7 a.m. shift, call  
Richard Radwan, AT 4-0252.

4833 White Settlement Rd. (Texas Trail-

er Court), 3:45 p.m. shift, call June

Maddaford, PE 2-0879.

4800 White Settlement Rd., 8 a.m. shift,

call J. L. Shen, PE 2-0139.

4505 Ohio Garden Rd. (River Oaks),  
7 a.m. shift, call MA 4-9317.

### Lost and Found

FOUND—man's wrist watch in parking lot number 2 Jan. 7, 1960. Inquire at Employee Services office.

### Smith Seeks Junior Baseball Managers

Junior Baseball Commissioner R. B. Smith has issued a call to all employees interested in managing a junior baseball team — helpers are urgently needed.



Jack Haynes

## Delightful Entertainment Offered By CRA's 'Life With Father'

Well staged, well acted, well directed—CRA Wing and Masque players have outdone themselves in their current offering, "Life With Father," which opened Thursday at Wing and Masque Playhouse before an almost-packed-the-house audience.

A completely and delightfully entertaining evening is in store for audiences when they follow the hilarious rigamarole of life with the Clarence Day family.

John Taylor, a Wing and Masque veteran, turned in a brilliant portrayal of the headstrong father. "Just right" best describes his treatment of a role that's as hard to get that way as a charcoaled steak.

Also outstanding was Ben Johnson in a supporting role as the Rev. Dr. Lloyd, who plays a big part in the struggle to get Father baptized.

But the audience agreed that the show belonged to Tommy Carr, who plays the youngest Day child, Harlan. The little moppet, his hair dyed red to suit the Day family heredity, had the audience in the palm of his hand. Besides being one of the most completely adorable children we've seen, he handled his role like an "old pro."

Mary Lou Schneider played a most convincing and attractive mother, while the other three Day

children were well-acted by Mike Taylor, Bobby Schneider and Ronnie Thomason.

Jan Day and Sydney Payne were lovely-to-look-at and pleasing-to-hear in the roles of the family's guests, Cora the cousin and Mary, who steals the heart of the oldest Day son.

Outstanding support was also offered by Bob Norwood, George Spelvin, Margaret Carr, Leslie Randolph, Jewel Parsons, Carrie Brent and Carolyn Anthony.

"Life With Father" is a real feather in the hat, not only for the cast and Directors Jerry Ratliff and Ruth Brown, but also for the production staff. Even on opening night there was not a single flub in sound effects, lighting, properties or costumes.

"Life With Father," a must for anyone who likes to laugh, will play March 3-5 at 8:15 p.m. at CRA Playhouse, 2966 Park Hill Dr.

### First Meeting Set For CRA Softball

As spring and softball season approach, CRA Softball Commissioner R. L. Evans announces first meeting of interested players, teams and managers to be held March 9 at 8 p.m. at the CRA clubhouse.

He particularly requests that girls interested in forming a CRA league attend the meeting, for an effort will be made this season to organize an all-girl league.

### C. W. Austin Wins Model Plane Meet

C. W. Austin took first place in the last CRA model airplane radio control contest. Other winners in the AMA Pattern and Spot Landing event were C. L. Price, second, and E. G. Clifton, third.

Next control line contest will be held at 1 p.m. March 13 at Forest Park.

### Ice Arena Opens One More Week

One more week of fun will be allowed CRA ice skaters, when Will Rogers Coliseum ice arena opens again March 10-16 from 8-10 p.m.

CRA Ice Skating Commissioner Glen Carter reports that CRA pass cards may be obtained at CRA office for 50 cents; cards purchased for the December sessions are still good.

## The Passing Years

### Fort Worth

The following emblems were due during the period March 16 through 31.

Twenty-year: Dept. 25, L. J. Robinson;

Dept. 51, L. E. Huddleston.

Fifteen-year: Dept. 6, B. S. Fain, C. J. Johnson, D. L. Massey; Dept. 8, J. R. Smith Jr.

Dept. 19, G. N. Wakefield; Dept. 20, F. W. Blakeley; Dept. 25, J. T. Evans;

Dept. 27, W. L. Morgan.

Dept. 41, J. A. Blakely, W. H. Lasater;

Dept. 46, J. H. Brown, G. W. Jackson;

Dept. 48, R. N. Farmer.

Dept. 51, H. Benton; Dept. 55, R. L. Wright Jr.; Dept. 58, D. W. Black Jr.;

Dept. 64, L. Lewelling.

Dept. 65, C. L. Young; Dept. 73, M. R. Mugg; Dept. 82, A. C. Clark.

Ten-year: Dept. 2, V. W. Jones; Dept. 4, H. G. Brown Jr., R. J. Irman, C. E. Reece.

Dept. 6, K. G. Brown, E. R. Cox, O. D. Flanagan, D. A. Johnson, W. A. Lambert Jr., W. E. Mahurin Jr., A. C. Shaffer, M. A. Sotz, E. A. Thayer, J. E. Woollen Jr.

Dept. 7, H. E. Boyd, M. L. Brooks, G. B. Norris, J. E. Perry; Dept. 12, W. H. Remley; Dept. 14, L. Brazil.

Dept. 20, L. N. Cosby; Dept. 21, W. M. Brown, J. W. Arendall; Dept. 22, T. Cook, R. C. Hale Jr., C. A. Leach, V. H. Montgomery, R. L. Rice.

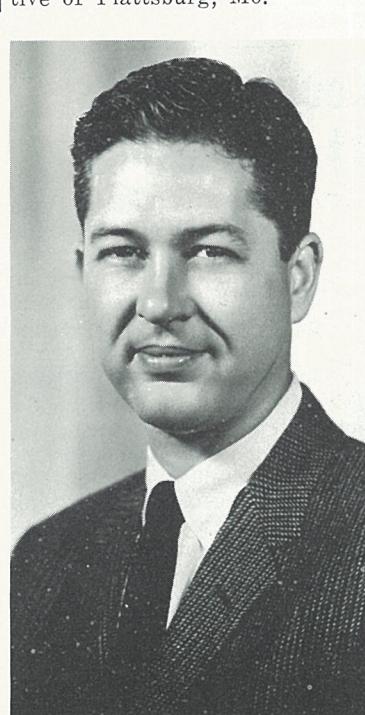
Dept. 23, M. P. Payne; Dept. 24, F. D. Hitter, T. H. New, W. O. Tyson.

Dept. 25, R. W. Dale, W. Holloway Jr., D. M. Woolf; Dept. 27, J. G. Cates, J. W. Colston, L. D. McDaniel, R. D. Markum, R. Richardson, J. L. Townley, J. D. Wilson.

Dept. 32, R. J. Gair Jr.; Dept. 33, R. A. McKown; Dept. 34, M. H. Almon; Dept. 36, W. D. Lolley.

Dept. 64, O. M. Blumberg, J. Donnelly; Dept. 65, J. F. Pickering; Dept. 73, E. R. Hale, O. S. Medlen.

Dept. 74, R. P. Phillips, G. A. Smith, H. E. Zimmerhanzel; Dept. 75, E. L. Boyce, J. L. Fox, H. H. Jones, J. B. Payton; Dept. 81, D. B. Stansel; Dept. 93, C. H. Harp.



H. C. Jones



**BEFORE AND AFTER**—Mrs. Mae Miears measures material to cover old shoe the way she has done in foreground—to match bag and hat. This was part of CRA women's activity demonstration on making new accessories out of old.

## Astronomers Plan All-Night Vigil During Total Eclipse March 12

A total eclipse of the moon will provide all-night observation for eight members of CRA astronomy activity.

Beginning at 11:34 p.m. Saturday, March 12, the moon will pass into the shadow of the earth, not fully emerging until 5:22 a.m. March 13. As the moon comes completely within the earth's shadow, there will be a total blackout of a longer-than-average duration of 95 minutes.

All this time the astronomy team will be stationed in the CRA observatory, taking motion pictures, Polaroid shots and color shots of the phenomenon.

Next astronomy meeting will be March 16, and will feature a film entitled "The Strange Case of the Cosmic Rays." Theories and facts about cosmic radiation are depicted in cartoon style and explained in layman's language.

Astronomy Commissioner Art Gilligan has invited all interested

persons, whether or not they are members of the astronomy activity, to attend the lecture meeting. It will begin at 8 p.m. at the CRA clubhouse.

### Volleyball League Seeks New Players

More individual players are needed by CRA volleyball activity, soon to enter city league play. Commissioner A. J. D'Ascenzo requests that all interested players contact CRA office, or simply come to the weekly volleyball games.

Beginning March 14 games will be moved from Monnig Junior High School gymnasium to the South Side Recreation Building, 215 W. Vickery. This signals CRA teams' entrance into city league play, which is held every Monday night from 6:45-9:30 p.m.

## Activities Calendar . . .

Convair Recreation Association events in the next two weeks are listed below. Readers interested may clip this column and save it for reference until next issue of Convairity. For more information, phone CRA office, ext. 2771 at Fort Worth, ext. 424 at Daingerfield.

### Fort Worth

**Tonight, March 2**  
ASTRONOMY: CRA telescope open to public, 7:30-11 p.m., CRA.  
RADIO: 50.79 mc on the air, 8 p.m.  
RANCH ACTIVITY: book review, 7:30 p.m., CRA.

**Thursday, March 3**  
ARCHERY: shoot, 7-10 p.m., archery range, CRA.  
ART: class, 7-10 p.m., CRA.  
DRAMA: "Life With Father," 8:15 p.m., CRA Playhouse.  
RADIO: operating, 7:30 p.m., CRA; 50.79 mc on the air, 8 p.m.  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.  
SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

**Friday, March 4**  
BRIDGE: duplicate session, 7:45 p.m., CRA.  
DRAMA: "Life With Father," 8:15 p.m., CRA Playhouse.  
RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

**Saturday, March 5**

ASTRONOMY: work parties, 9:30 a.m.-2 p.m., CRA.

DRAMA: "Life With Father," 8:15 p.m., CRA Playhouse.

GO KART: meeting, 9:30 a.m.; races, 2 p.m., CRA.

SNACK BAR: open 9:30 a.m.-2 p.m., CRA.

**Sunday, March 6**

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7:30 p.m., ranch area, CRA.

SNACK BAR: open 2-7:30 p.m., CRA.

**Monday, March 7**

MOVIE: "It Came From Beneath The Sea," shown lunch period, 50-foot aisle.

VOLLEYBALL: league play, 6:45 p.m., South Side Recreation Building.

**Tuesday, March 8**

BADMINTON: play, 7:30-10 p.m., Striping Jr. High School.

COIN CLUB: meeting, 8 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

ROCKHOUNDS: meeting, 7:45 p.m., CRA.

TABLE TENNIS: play, 7:30 p.m., CRA.

**Wednesday, March 9**  
ASTRONOMY: CRA telescope open to public, 7:30 p.m., CRA.  
BRIDGE: duplicate session, 9:30 a.m., CRA.

CAMERA: lecture, 7:30 p.m., CRA.  
RADIO: 50.79 mc on the air, 8 p.m.  
RANCH ACTIVITY: roping, 6-8 p.m., CRA.

SOFTBALL: meeting, 8 p.m., CRA.  
WOMEN'S ACTIVITY: meeting, 10 a.m., CRA.

**Thursday, March 10**  
ARCHERY: shoot, 7-10 p.m., archery range, CRA.

ART: class, 7-10 p.m., CRA.  
ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

RADIO: operating, 7:30 p.m., CRA; 50.79 mc on the air, 8 p.m.  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

**Friday, March 11**  
BRIDGE: duplicate session, 7:45 p.m., CRA.

ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

SNACK BAR: open 9:30 a.m.-2 p.m., CRA.

**Saturday, March 12**  
ASTRONOMY: work parties, 9:30 a.m.-2 p.m., CRA.

ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

SNACK BAR: open 9:30 a.m.-2 p.m., CRA.

**Sunday, March 13**  
ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

MODEL AIRPLANE: control line contest, 1 p.m., Forest Park.

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.

SNACK BAR: open, 2-7:30 p.m., CRA.

**Monday, March 14**  
MOVIE: "Written on the Wind," with Rock Hudson, shown lunch period, 50-foot aisle.

ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

VOLLEYBALL: league play, 6:45 p.m., South Side Recreation Building.

**Tuesday, March 15**  
BADMINTON: play, 7:30-10 p.m., Striping Jr. High School.

ICE SKATING: 8-10 p.m., Will Rogers Coliseum.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SKIN DIVING: meeting, 7:30 p.m., CRA.

STAMP CLUB: meeting, 8 p.m., CRA.

TABLE TENNIS: play, 7:30 p.m., CRA.

BRIDGE: duplicate session, 9:30 a.m., CRA.

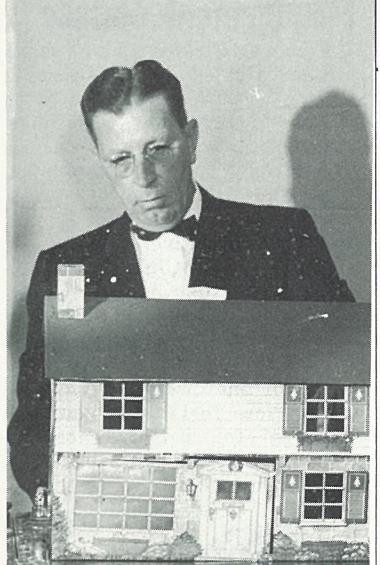
## Jet Streams Cop CRA Hoop Title In Play-off Game

Jet Streams, undefeated in CRA basketball league play, won the play-off to become plant champions. They topped Convair league champions, the Afterburners, taking two games straight, 42-35, and 40-37.

Runner-up in CRA league was the Cougar team, while second place in the Convair league went to the Flight Test team.

Joe Huckaby manages the Jet Streams; the Afterburners' manager is John Ogren. Both teams are now in the city playoffs.

Basketball Commissioner D. R. Cooper reminds all team members and managers that their uniforms and basketballs must be returned to the CRA Area office by March 7 in order for them to be eligible for refunds.



**HOME, SAFE HOME**—R. W. Lane, Dept. 3 safety engineer, is not playing with doll house—it's part of home safety demonstration given at Dept. 25 safety committee banquet.

## Dept. 25 Losers Fete Winners In Supervisory Safety Contest

Twenty winners of a Dept. 25 supervisors' safety contest were recently feted with a banquet given for them by the contest's 20 losers.

The banquet, held at Ridglea Bowl banquet room, climaxed a six-month safety contest between members of Dept. 25 Safety Supervisory Committee, and doubled as the official departmental safety meeting for the month.

R. W. Lane, Dept. 3 safety engineer, presented a demonstrative lecture on the hazards of the home. It was of particular interest to wives of the safety contest's participants, who were honored guests.

According to F. B. "Red" Thompson, a maintenance superintendent in Dept. 25, the contest was based on three measuring factors. Scores were kept for each month, and a high and low man was named. Winner received the "safest crew" banner, and the low man received the "tail end of the month" award.

Included in evaluating scores were grades on monthly written

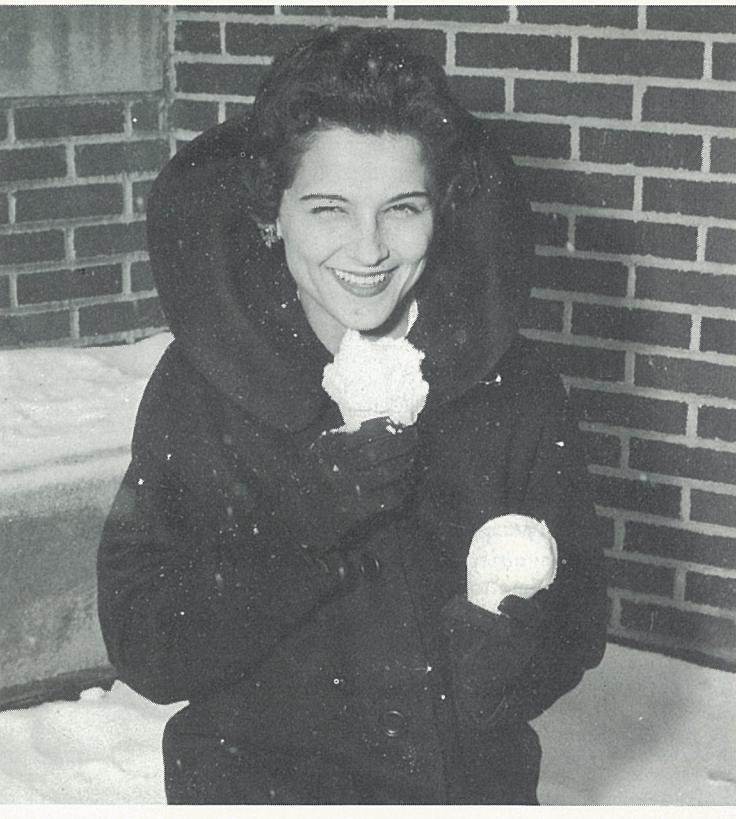
## Three Receive Top Boy Scout Award

Sons of three Convair FW employees recently were awarded the God and Country award—one of the most coveted Boy Scouts honors.

Recipients were Stuart Hutchins, son of H. S. Hutchins, Dept. 6-1; John Hairston, son of Jack Hairston, Dept. 25; and Bill Barber, son of R. L. Ingmire, Dept. 6-4.

Presentation was made by the National Boy Scout Council, in conjunction with the Ridglea Presbyterian Church, Fort Worth. The award is based mainly on a Scout's activity in his church.

All three boys are Eagle Scouts.



**BITES?**—Barbara Thompson, Dept. 4-6, took advantage of recent snow to offer photographer Aaron Murray bite of do-it-yourself snow cone, made with plenty of fresh snow and paper cups.

## Registration Starts for Second Annual CRA Baseball Clinic

Second annual CRA Junior Baseball Clinic for children of all Convair employees has been tentatively scheduled for April 28-30 and May 5-7 at CRA Area. However, 100 boys must have registered by March 21 for plans to be finalized.

Major league scouts will be instructors, and CRA office reports that there will be more this year, to give more adequate attention to every child.

Age limit this year has been lowered from nine to eight, and top age is 15. There is also a total registration limit of 210 boys.

Cost of the two-weekend clinic is \$5, and CRA will furnish all equipment with the exception of gloves.

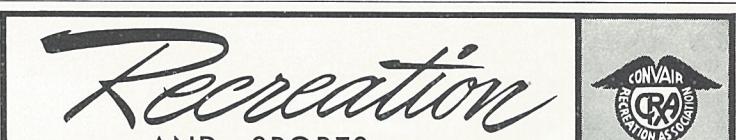
The climax of the clinic will be an all-star game, with all who attended participating. There will be three divisions by age—8-9, 10-12, and 13-15.

## Participants Sought To Fill Bowling League Vacancies

Bowling Commissioner Harry Carlberg requests that any persons wishing to join a CRA league contact him at 2818, as vacancies having occurred since the beginning of the season need to be filled.

One league championship tie exists, with The Bits and Trouble Shooters topping the Engineering league.

Other leagues and their leaders are Century league, Lost Five; Test Lab league, Triangle Inn; 850 Twilight league, Lydick Insurance; CRA Second Shift league, Supersonics; Sunrise Mixed league, Spotters; and Guys and Gals league, Sam Davis Cement team.



**DECORATED SCOUTS** — Winners of Boy Scout God and Country award are pictured above with the Rev. C. W. Williams of Ridglea Presbyterian Church. Sons of Convair employees, left to right, they are Stuart Hutchins, John Hairston and Bill Barber.



**SUDDEN SNOW**—Short-lived snow storm blew into Fort Worth on Feb. 17, Convairity distribution day. Photographer Ernie Lain had just enough time to grab camera and catch first-shift employees braving "storm" to head for home—then snow stopped.

## Dynamic Toastmasters Club Receives Official Charter

Dynamic Toastmasters Club received its charter and installed 1960 officers Feb. 15 at Ridglea Bowl.

A total of 51 members and lady guests attended the banquet meeting.

John S. Strothers Sr., Lt. Governor District 25, presented the newly-formed Dynamic Club with its charter. Dynamic is sponsored by the Convair FW Management Club.

H. F. Schubert of Convair FW, an area governor, installed the following slate of officers for

1960:

E. W. Feddersen, president; D. G. Brew, educational vice president; G. C. Harris, administrative vice president; R. E. Ridgway, secretary; C. J. Middleton, treasurer; and F. B. Thompson, sergeant at arms.

Paul Billman, Management Club vice president, represented the club at the session.

Trophy for best speech of the evening went to E. C. Cauthen; best table topics speech, E. E. Clark; toastmaster of the evening, John Gilbert.



**CHARTERED**—E. W. Feddersen, left, president of Dynamic Toastmasters Club, receives club's charter from John S. Strothers Sr., Lt. Governor District 25. Area Governor H. F. Schubert looks on.

## Outstanding Ground Safety Records Earn Awards For AF Reps. at FW

Two awards for outstanding ground safety records in 1959 were won by Air Force representatives at Convair Fort Worth. The group, headed by Col. L. R. Hall, was the only AF plant representative group singled out.

Howard Brown, representing San Antonio Air Materiel Area as safety monitor, presented Colonel Hall with two framed plaques—one for lowest time-lost accident rate and one for most outstanding effort to reduce accidents.



**SAFE AIR FORCE**—Receiving Air Force safety awards for top records in San Antonio Air Materiel Area is Col. L. R. Hall, left, Air Force plant representative at Convair Fort Worth. Making presentation is SAAMA safety monitor, Howard Brown.

## Final Graduate Entrance Examination For SMU Fall Semester Next Month

The last graduate entrance examination for SMU before the fall semester will be given at Southern Methodist University April 23.

Persons seeking admission to the graduate school, either this summer or next fall, should make application for admission immediately. Transcript of undergraduate work should accompany it.

Applicants whose undergraduate work does not meet SMU's

requirements must take the graduate record examination on April 23. Applications to take the examination must be in Princeton, N.J., by April 8.

Cost of the test, consisting of verbal and quantitative ability questions, will be \$8.

Further information may be obtained from D. F. Anderson, training specialist, or H. C. Anderson, educational services supervisor, at extension 3541 or 3097.

## 'Change' Suggestion Earns Record Sum For AF's E. J. Rivas

Edward J. Rivas, Air Force engineering support at Convair FW, recently won a \$280 suggestion award, largest ever presented by the Air Force at FW for a single suggestion.

The check, presented to Rivas by Col. L. R. Hall, Convair FW Air Force plant representative, was in recognition of a suggestion estimated to save \$10,000 the first year.

According to Capt. W. T. Rose, Air Force Services division, Rivas' suggestion was "to make minor, one-time changes to tactical aircraft directly from Convair change analyses, precluding the expense of formal time compliance technical orders."

## Club Will Recognize Members Completing Management Classes

Four certificates and 10 associate certificates will be presented to Convair FW employees at the March Management Club meeting.

Awards are presented upon completion of 60 and 30 hours of prescribed college management courses, respectively.

Management Club, in conjunction with Texas Christian University, sponsors the awards.

Jess Butts, educational services, says other employees may be eligible for one of the awards.

"If you feel that you have qualified for a certificate, contact educational services (ext. 3442)," he said.

## Lanphier's Statement

(Continued from Page 1) and privileges as an American citizen to criticize my government, particularly in the area of defense where I feel I have some experience as basis for valid comment.

"I want to do this without being factored as a 'missile salesman' and without implying endorsement of my views by the organization which employs me.

"Therefore, as of March 15, I am leaving Convair, a company of men and women with whom I have for the past nine years been proud to be associated in the significant contributions they have made and are making to the national defense."

## Two Convair FW Men In Club Ceremony

John N. Watson and Richard Russell of Convair FW educational services played key roles in Feb. 23 charter ceremonies for the Rocketyne Management Club in Waco, Texas.

Watson presented the new club's charter and gavel set to R. C. Terry, club president. Russell made the charter address.

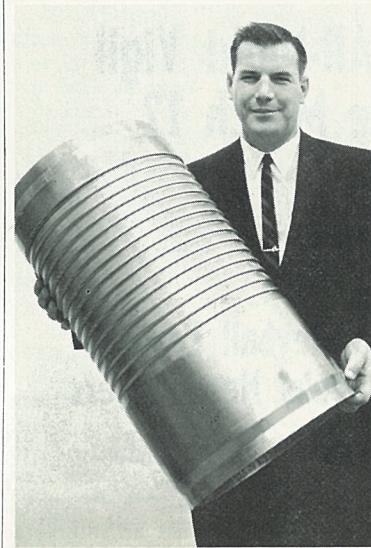


**GEYSER**—Explosive blast, used to dynaform airplane parts, sends water spout high in air.

## Explosive Used to Form Part For B-58 System

A B-58 production part—a ball joint for the overboard dump system—is now being dynaformed by Dept. 31.

Dynaform is the process of us-



**RESULT**—Experimental part, made by dynaform process, is held by Bob King, manufacturing research engineer.

ing explosives of different kinds for shaping sheet metals.

Dept. 23 (manufacturing research) has conducted extensive tests in dynaforming for several years. Three months ago, Convair FW turned out its first dynaformed production part—the ball joint.

"Dynaform is used most effectively for blasting parts from cylindrical and truncated cone pieces," Bob King, manufacturing research engineer said. "We feel that dynaforming can now be used to manufacture a variety of production parts."

Production of the ball joint used on the Hustler involves a relatively simple manufacturing process, King pointed out.

"First a die is made of the desired configuration," he said. "Then the proper portion of explosive is placed inside the unshaped piece of metal tubing, and the tubing is literally blown into the desired shape with one or more detonations."

King explained that pistol powder is used in forming a small part such as the ball joint for the dump system.

"But on larger parts, the die and unshaped metal are placed in a tank of water eight feet across and about 10 feet deep; and dynamite and other more potent explosives are used to dynaform the piece."

"The dynaform process can be used to form material too thick to be formed by many other processes," King said.

As an example, he said that several years ago a one-half inch armament was formed experimentally for the B-36 by dynaforming. Another more formidable example: The Maginot Line in France.

"Dynaforming can be done on intricate configurations, in a wide range of sizes," King said, "and it is possible to work to tolerances as close as .002 inch."

Dept. 31 is now manufacturing the B-58 production part in the northwest corner of the reservation.

## One Airplane a Month Will Enter Conversion

As B-58 Hustler No. 28 winds up the second phase of production conversion next week, it will be well on its way to becoming a tactical aircraft ready for delivery to SAC inventory.

About mid-March, Airplane No. 17, second Hustler scheduled for the conversion program, will be brought into the experimental hangar for modification.

After that, one airplane a month from the 14-30 test group will enter the conversion program, designed to give the Air Force operational Mach 2 bombers at a "bargain rate."

Airplane No. 28, which during its test life was engaged in sonic fatigue tests, will complete conversion in early summer. Already the nose section has been demated and sent to Dept. 54 for reworking to latest configuration.

(Conversion planes are being modified to the same configuration as airplanes coming off the assembly line at time of conversion completion.)

These "test-to-tactical" airplanes will be equipped for the capsule escape system. However, the first five conversion Hustlers will have rocket ejection seats, awaiting operational status of the capsule. Capsules will be installed when ready.

Working with J. O. Muncy, general foreman of Dept. 94, B-58 production conversion, are more than 50 men. Most are working first and second shifts, but a skeleton crew does long-range work on third shift.

"We'll be on the conversion program until September, 1961," Muncy reports, "and so far the work has gone smoothly."



**DEMATED NOSE**—Nose of B-58 Hustler No. 28, first to enter Convair FW's production conversion program, returns to assembly line for change-over from test-to-tactical.



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# Convairity

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SAN DIEGO, POMONA, ANTELOPE VALLEY, VANDENBERG AFB, CALIF.

**Fort Worth and  
Daingerfield  
EDITION**

Fort Worth news office:  
ext. 2961; Daingerfield news  
office: ext. 424

AFMTC, CAPE CANAVERAL, FLA., FORT WORTH, TEX.

## Waste Paper Compressors Begin Service

(Photo on Page 8.)

"Black snow" from the incinerator at Convair FW will soon give way to a new "mechanical waste paper system."

Two Packmaster trucks, each with 16-cu. ft. capacity, have arrived and are being readied for plant-wide service, according to B. R. Main, traffic general foreman.

Once in full use the trucks will collect Convair waste, compress it, then dispose of it in the county dump.

"We're working out traffic patterns for regular pickups now," Main said, "and hope to have regular waste collection schedules worked out very shortly."

Main added that the trucks, because of their size, will be able to operate only in the larger main aisles. They are painted yellow and can be identified by amber blinking lights.

After filling to capacity of over 7,000 pounds, each truck will deposit its trash in the county dump. Working together, the trucks can collect over 14,000 pounds of paper—and other trash.

Specially built, white-colored containers, 46 inches high and 29 inches wide, will be used for paper disposal in areas inaccessible to the trucks.

These containers can either dump their refuse into the Packmaster in-plant, or be towed to accumulation areas for this operation. About 141 of these containers will be in operation.

Paper and other trash from the containers is dumped into the hopper at the rear of the truck. A ram blade then pushes the waste up into the truck storage, compressing "about a regular box car" of paper into the relatively small storage area of the truck.

The trucks are capable of handling paper, lumber, and most other types of trash.

Using both trucks to make regular waste collections throughout the plant, Main estimates only one trip will have to be made to the county dump every other day.

The incinerator will be closed down as soon as the new trucks become completely "operational," Main stated.

All classified material will be placed into a pulverizer, where it will be chopped and soaked into a pulp before being dumped.



DOZEN YEARS—Frank W. Davis, Convair vice president and FW manager, left, presents safety plaque to G. A. Frazier, Dept. 14 general foreman, and S. W. Goodnight, right, Dept. 14, safety committeeman. Dept. 14 has gone 12 years without disabling injury.

## B-58 Hustlers Groomed For Armed Forces Day

Thousands across the nation will get a close look at Convair's ubiquitous B-58 in various Armed Forces Day celebrations, May 21-22.

The Mach 2 bomber is tentatively set to flash overhead in review at several key points—including the nation's capitol—and repose in static display at perhaps a half dozen other major bases and cities.

Major display point will be Fort Worth's Carswell AFB. Several Hustlers from the 43rd Bomb Wing—first operational B-58 unit—will be on display for Open House visitors.

Hustlers from the 43rd are prepared to journey to Washington, D. C., according to Col. David Jones, commander of the joint ARDC-SAC Test Force. Two B-58s are slated to go to Andrews AFB—one for display and one for flyby.

Convair plans to dispatch a Hustler to the San Antonio Air Materiel Area for a flyby demonstration and landing, while an already SAAMA-based B-58 will be on static display. Several B-58 desk models will be awarded as attendance prizes.

Hustlers are also tentatively scheduled for display in Armed Forces Day celebrations at Wright-Patterson AFB in Dayton and Offutt AFB in Omaha.

The one-tenth scale model B-58, which was in a science and edu-

cation exhibit at Lincoln AFB in April, is expected to be available for Air Force-sponsored exhibits in Omaha during Armed Forces Week.

In addition, requests for B-58s for Armed Forces Day have come from Bunker Hill AFB, Ind., Westover AFB, Mass., and Kirtland AFB, N. M.

Distribution of B-58 fact booklets and showing of unclassified Hustler films are also planned for various points.

## Scholarship Winners Named

Two outstanding young scholars—one an avid amateur radio operator, the other a spare-time electronics enthusiast—have been awarded Convair Sons scholarships for 1960, Frank W. Davis, Convair vice president and FW manager, has announced.

Winners are Harold David Reasoner, 17, of Azle High School, son of Mr. and Mrs. Marion Reasoner; and Jerry Wayne McBride, 17, of Brewer High School, son of Mr. and Mrs. George W. McBride.

Reasoner, Dept. 7-9, is a development liaison man with 13 years at Convair. McBride, a 17-year Convair FW veteran, is spare parts man in Dept. 21-2.

Both winners will attend Arlington State College and both will major in electrical engineering.

"These boys were selected from a field of 38 candidates of unusually high caliber," Davis pointed out in making the awards.

"Twenty-two of the candidates boasted either A or A-minus

(Continued on Page 8)

## Students Granted Graduate Awards

Four graduate awards for 1960 have been announced by Convair FW.

Winners are entitled to \$1,000 each for a year of graduate work in engineering or an allied science.

They are: Joseph V. Noyes, Oklahoma University, master's in aeronautical engineering; Robert L. Allen, University of Southern California, master's in electrical engineering; Furman Y. Sorrell Jr., California Institute of Technology, master's in aeronautical engineering; and Gregory A. Carter, Princeton, master's in aeronautical engineering.

## Let's Declare War Against Accidents, Says Div. Manager

"During 1960 I want every employee at Convair FW to enlist in all-out war on accidents."

So said Frank W. Davis, Convair vice president and FW manager, at the annual factory safety award banquet May 2 at CRA. Twenty-seven departments—largest number in Convair FW's history—received safety plaques as winners in the 1959 contest.

In urging the all-out safety campaign, Davis stressed the complexity of equipment and systems for present-day hardware.

"Even a single error can be completely destructive these days," Davis said. "That's why we won't be able to tolerate even slight mistakes in the days ahead."

"Accidents," Davis said, "are conceived in ignorance, born of neglect . . . and nurtured in carelessness."

"I want every employee at Convair FW to go all-out to make Convair FW accident-free during 1960."

Winners in the contest must have either completed 100,000 manhours or more in a year without disabling injury; or at some time in the year accumulated one million or more manhours since the department's last disability.

Winners were Depts. 4, 14, 20, 21, 22, 31, 32, 33, 35, 36, 41, 46, 48, 54, 55, 57, 58, 59, 64, 65, 73, 74, 75, 81, 91, 92, and 93.

In addition, Davis announced, five other departments which did not work 100,000 hours in 1959, qualified in all other respects. They were Depts. 34, 52, 53, 70 and 95.

## Dept. 73 Leads In Safety Race

Plant Safety Banner now hangs in Dept. 73 (Electrical Bench).

The winner, a contestant in Group I category, scored 486 of a possible 500 points during the factory safety contest for the first quarter of 1960.

Scores are based on a department's injury record, safety activity, safety committee meetings, and accident-free months during the previous quarter.

Winners in other groups were: Group 2, Dept. 33 (bonded structures), 474 points; Group 3, Dept. 51, (pod structures and sub-assembly), 467 points; Group 4, Dept. 59 (B-58 engines), 476 points; Group 5, Dept. 64 (development field operations), 421 points.

Winners in each group received smaller safety banners for display in their departments.

The record-making effort of the 27 winning departments was described as "excellent." Their combined records would have been the equivalent of a department of 100 people working 165 years without a disability, Davis said.

In addition, Davis singled out the safety efforts of Convair

(Continued on Page 8)



CACHET — CRA Stamp Commissioner L. R. Wilson poses with art work for special "TB-58 stamp."

## Cachet Designed For First Flight

First flight of the B-58 trainer bomber will be a major event for Convair—and 500 stamp collectors.

When TB-58 No. 1 touches down on the Carswell strip, 500 pre-stamped "TB-58 envelopes" commemorating the trainer's first flight will go on sale for 25 cents each at CRA. CRA's Stamp Club sponsored printing of the envelopes.

The TB-58 envelope exhibits a cachet (specially prepared art work) of the trainer's vista-vision fuselage superimposed over an isometric outline of the Hustler.

"Most stamp collectors gather cachets as a specialty item," said L. R. Wilson, CRA Stamp Club commissioner.

"For example, a 'stamp' issued on the first flight of the B-58 recently sold for \$5. And of course the first-flight B-58 cachet has long since become a collectors' item."

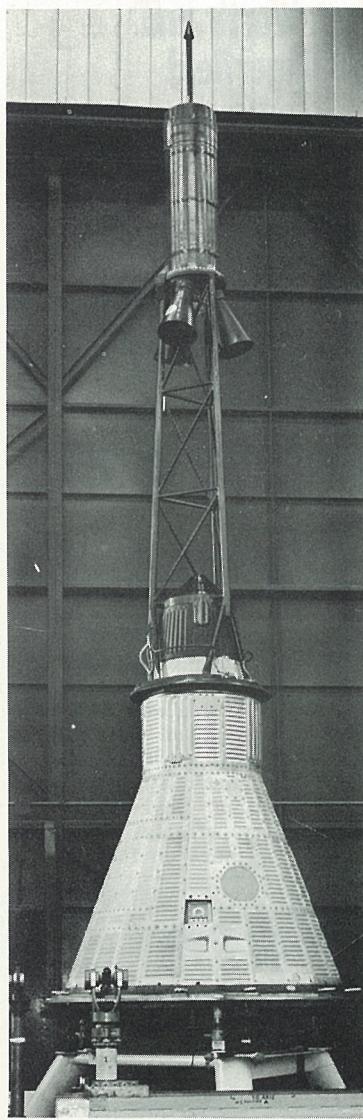
Stamp club members throughout the U. S. and several foreign countries usually end up vying for these first-flight cachets, Wilson said.



SAFETY FIRST—B. G. Reed, left, Convair FW assistant manager-operations, presents Plant Safety Banner to Dept. 73, represented by F. E. Williams.



FLYBY—Many observers across U. S. will get this kind of look at vaunted B-58 Hustler as it zooms overhead in various Armed Forces Day celebrations.



**FIRST PHOTO** — Project Mercury space capsule photo was released for first time. McDonnell Aircraft delivered it to NASA. Pylon atop capsule is escape system. Atlas missile will send such a capsule into space.

## Project Mercury Atlas Readied For Shipment To Cape Canaveral Soon

A continent apart, important steps are being taken in Project Mercury, the effort to boost a manned capsule into space.

At San Diego this week Astronautics was readying an Atlas missile for shipment to Cape Canaveral, assigned to the project.

At Wallops Island, Va., McDonnell Aircraft, builder of the space capsule, delivered the first capsule instrumented for escape system tests.

Accepting the latter was the National Aeronautics and Space Administration, Project Mercury sponsor. This government agency's Space Task Group will assist McDonnell in exhaustive tests of the system.

The capsule delivered is cone-shaped with a base diameter of about six feet. It is nine feet high. Atop the capsule is a tower arrangement with a high impulse rocket as its peak. The rocket could carry the capsule away from the Atlas should malfunction occur. It is a safety device which would be jettisoned if not needed.

Astronautics is modifying Series D Atlas missiles for Project Mercury. Modifications consist of alterations in guidance and autopilot telemetry and electrical systems. Astro has also designed an abort sensing system, which would detect malfunctions during booster flight and trigger the automatic escape mechanism.

This mechanism could also be triggered by ground control stations, including the test conductor, or by the pilot within the

capsule. The pilot would throw a special switch.

(Astronauts, one of whom will make the first manned space flight, call this the "chicken switch.")

Early this year capsule tests at the Virginia site were made with a small (six-pound) monkey aboard. "Miss SAM" (for School of Aviation Medicine, her "home") rode the capsule atop a "Little Joe" rocket to an altitude of 36,000 feet where the escape system was activated to bring her safely to earth.

She was examined and proclaimed "in good condition."

Complex 14, the "oldest" of the Atlas launch sites at the Atlantic Missile Range, will be the launch site for Project Mercury. Curt Johnston, Astronautics test conductor, will be in charge. Assisting will be representatives of NASA, McDonnell and the Air Force.

Normal Atlas countdown procedures will be used, although the count will be lengthened 30 minutes to allow for checkout of capsule systems and instrumentation.

The first ballistic missile test shot involving Atlas and the Mercury capsule took place in September of 1959. It was designated "Big Joe." The capsule was recovered and NASA reported the test yielded a wealth of re-entry and recovery data.

In the next series of tests Atlas will lift the capsule above the atmosphere and accelerate it to about 17,000 miles an hour on a downward slanting trajectory that duplicates re-entry conditions. The capsule model separates, orients itself, and parachutes into the recovery area.

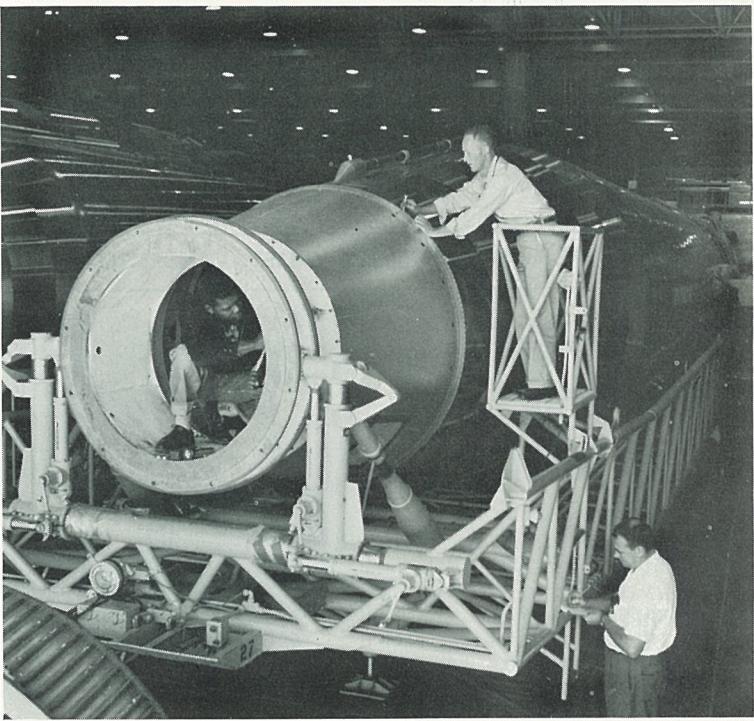
Next come ballistic shots in which unmanned capsules will be placed in orbit by Atlas to evaluate the capsule system and the world-wide tracking and communication network now being installed by NASA as well as the total recovery system.

However, before the first manned space flights, the seven astronauts will send one or more of their number on shorter flights involving the capsule and a Redstone missile booster. These will be sub-orbit flights.

The first Atlas-boosted manned Mercury shot, now scheduled by NASA for the "calendar year 1961," will send the capsule and its occupant more than 100 miles above the earth where it will make three 90-minute orbits before recovery operations are started.

All participants in the Mercury program, Convair Astronautics and its thousands of suppliers, McDonnell Aircraft and its vendors, plus many others, have all joined in a Project Mercury Pilot Safety Program.

At Astronautics and its suppliers this means normally rigid Atlas quality control measures are being tightened even more.



**FOR MERCURY** — This Atlas missile is being readied for shipment to Cape Canaveral where it will be assigned to Project Mercury. Special space capsule will be affixed to nose.

## Models Help Determine Best Spot For Antenna

Test engineers at Convair Fort Worth are using scale model copper B-58s, rolling along "railroad tracks," to figure positions for the Hustler's many antennas, ranging from low frequency communications and navigational aids to high frequency radar antennas.

Hanging from the ceiling of the antenna range shelter atop the test lab are the not-in-use models, resembling contemporary mobiles. But when the lab receives a test request—for in-

stance, "Tell us where's the best place to locate the glide slope antenna?"—the models swing into action.

First an antenna is mounted on the model in what engineers consider the most logical place. Then the entire model is put atop a motor-driven pole and begins its trip out the tracks to the roof, away from the shelter.

With a given antenna and a given frequency to be used, the distance of the model from the shelter—where the power source is located—must be exact. Engineers have about 100 feet of track to work with.

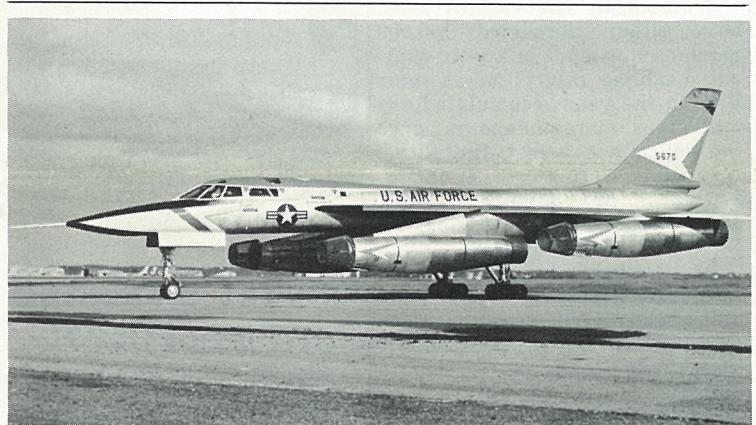
The power source transmits signals which are relayed to a console inside the shelter by a detector, attached to the antenna and connected to the plotting system by cable.

Then the search begins, and the engineers begin plotting full scale antenna radiation patterns.

If plotting shows the first position selected for the antenna produces the desired results, that's where the antenna will go on the airplane. If not, engineers will remove the antenna, quick-patch the hole, and try it somewhere else.

Incidentally, the easy soldering characteristics of copper is one reason the models are made of that material. In addition, it's relatively inexpensive.

Bill Raymond, Dept. 6-7, says the most frequently used copper model is the one-tenth scale size, although the lab has several smaller ones. They're less desirable in most cases, however, because, as the model size is scaled down, frequency of signals must be scaled up accordingly. Too small a model would require an impossible-to-produce frequency.



**TAXI** — First full photo of multi-windowed TB-58 was taken May 6 during rollout for first taxi run—with Val Prahl, Earl Guthrie, and Grover Tate aboard. Trainer was to taxi again before first flight.

## Hustler Makes High and Low Flybys For Aviation Writers

A B-58 made low and high-level dashes over Edwards AFB May 6, as some 150 aviation writers on the ground received a running radio account of the action.

The demonstrations at Edwards climaxed a week-long conference of the Aviation Writers Association held in Los Angeles.

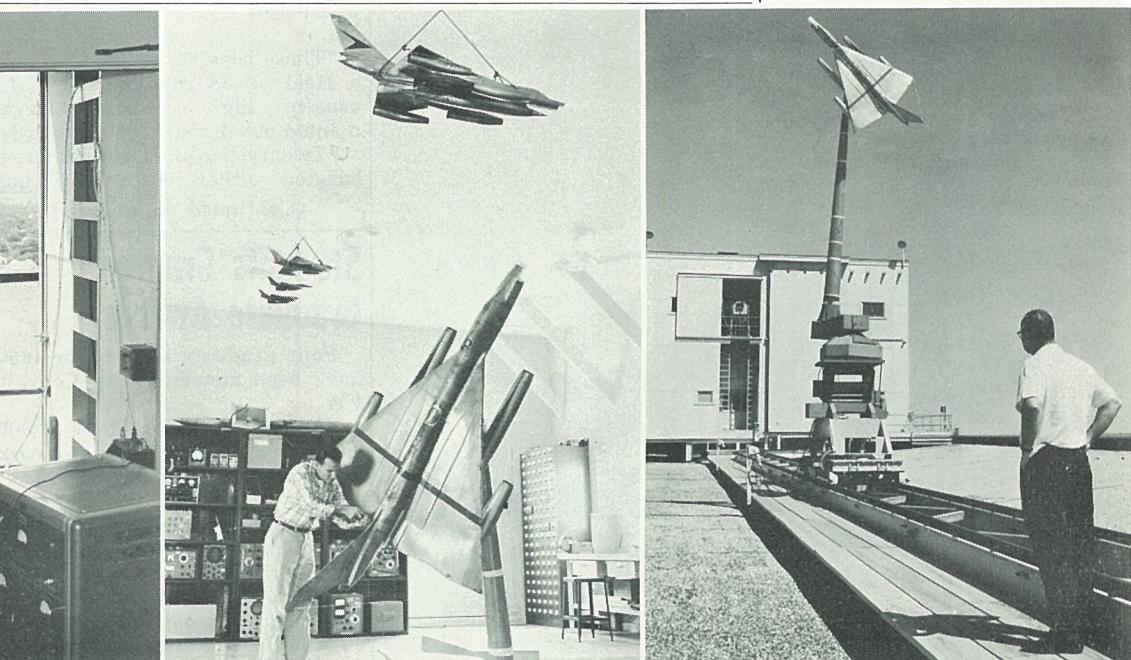
Flying supersonic, the B-58 first made a high-altitude pass, demonstrating operational bombardier-navigation techniques used on the Hustler. During the flybys, a running commentary of the action was radioed from the Hustler to a ground station, then aired over a loudspeaker to the writers.

After the high-altitude pass,

the Hustler made one of its famed on-the-deck operations at low altitude.

A three-man crew from Carswell AFB put the Hustler through its paces.

Following the demonstrations, the B-58 was put on static display for writers and photographers.



**ANTENNA CHECK** — Best spots on B-58 for antenna locations are determined with copper models at Fort Worth. Center, L. B. Herring, Dept. 36, tightens antenna before it's rolled outside. At

left, B. F. Pinks, Dept. 6-7, adjusts power source and aims signals. At right, Bill Raymond, also Dept. 6-7, okays position on tracks.

## Tons of Electronic Equipment For Air Force Produced at San Diego

Antenna units for an electronics system constructed by Convair San Diego electronics department for Stromberg-Carlson Division of General Dynamics Corporation, under a \$3½-million contract, are nearing completion.

The assemblies, consisting of antennas, towers, and radomes built by Convair SD electronics, will make up the system developed for the Air Force, according to R. E. Honer, manager of SD electronics. Over 120 tons of electronic equipment, enough to fill 15 freight cars, is ready for shipment at the SD plant.

First component completed under the first phase of the current contract, a boresight console, was delivered to Stromberg-Carlson's Rochester, N. Y., plant last fall.

Units being developed under the final phase of the project are in systems acceptance testing at the San Diego plant, T. B. Taylor, project engineer for the program, reported. D. W. Graybill, electronics project engineer, was responsible for direction of the work throughout its initial phase. B. G. Ward recently has been assigned project office responsibility for remaining tasks on the program.

Assemblies in final stages of completion are tracking antennas. During the next couple of months they will be proved out in an open area south of Bldg. 72 at Convair San Diego Plant 1.

The entire system consists of a group of antenna assemblies to cover various frequencies, and a control center to coordinate reception of signals, Taylor explained.

Convair San Diego electronics has been responsible for construction of the reflectors and pedestals, towers, microwave components in the antenna assembly, and boresight consoles to be installed in the control center for checking of antenna alignment and sensitivity.

Antennas, of four different types, are dish-shaped reflectors, varying in working area diameters. They will be enclosed in balloon-like radomes and mounted on steel towers of different heights.

Signals picked up by the revolving reflectors are focused into a feed at their base, then to pre-amplifiers within the tower structures. From the pre-amplifiers, signals are transmitted by cable to the operations building, where they are processed through

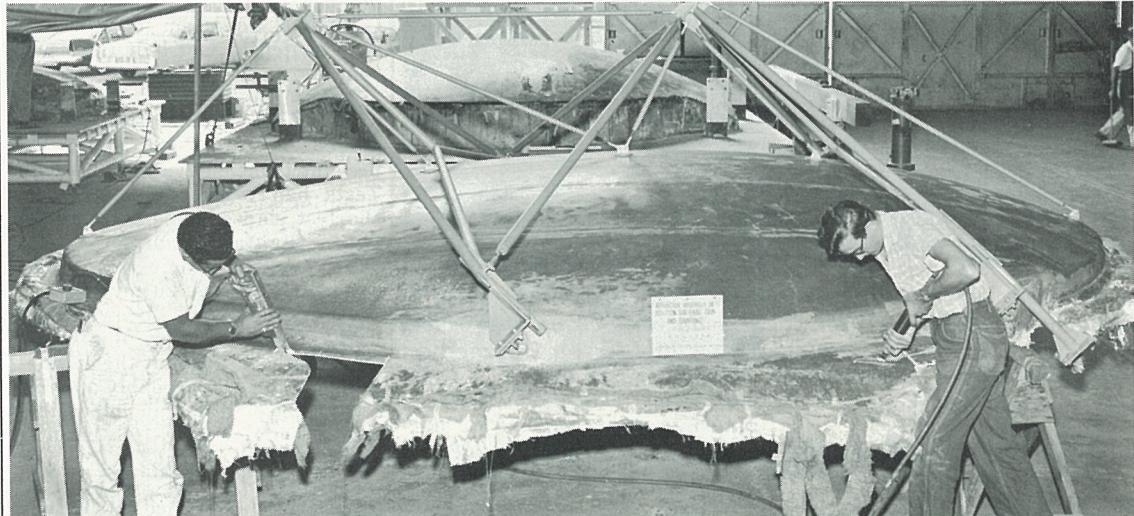
specially-constructed receivers, Stromberg-Carlson display units and data-handling equipment.

Convair San Diego electronic engineers conceived the design of reflectors, with engineering productivity determining type of materials and construction.

San Diego manufacturing development evolved manufacturing

processes for one type of reflector, made of honeycomb with layers of fiber glass cloth bonded with epoxy resin. Reflecting surface of this type is tin-sprayed. Others are of expanded metal, and still a third type is composed of metal spinnings, with pie-plate circles stacked on top of each other.

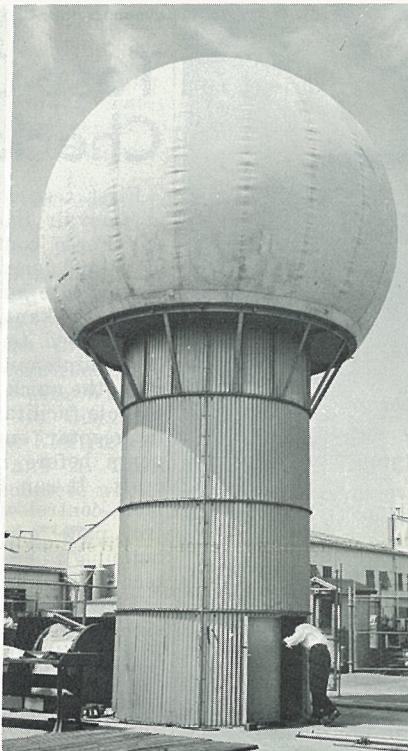
Plastics production and experimental model shop built the different types of antennas; experimental factory at San Diego handled metal fabrication and machining. Other departments assisting with the project included tooling, and electronics manufacturing, which has been responsible for all electronic components.



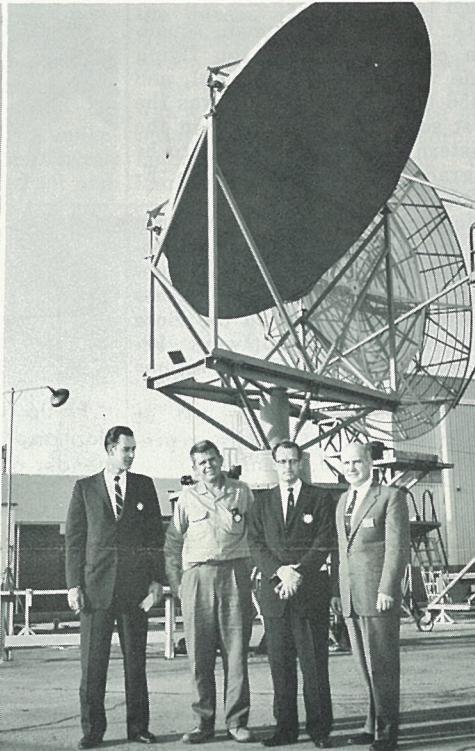
NEAT—Ed Morris and Al DeWater, both SD Dept. 129, trim "flash" (excess cloth and resin) from reflector in plastics production area. Dish-shaped reflector, made of honeycomb base with layers of glass cloth bonded with epoxy resin, is for use in Air Force electronic project.



**WATCHERS**—At left is monitor antenna during checkout in Convair SD experimental yard, while in center is tower complex. Antenna revolves within balloon-like radome. At right are four of key men in program to build electronic system for Air Force.



From left, T. B. Taylor, project engineer; Jack Norvall, test engineer; W. R. Monks, senior design engineer, all of SD electronics; A. N. Paul, head of Stromberg-Carlson mechanical design section at Rochester, N. Y.



## B-58 Ejection Seat on Display At Aerospace Medical Meet

The present and future of survival equipment is taking the spotlight at the Miami, Fla., convention of the Aerospace Medical Association, in the form of a Convair FW-Stanley Aviation Corp. display.

The booth, entitled "Survival—1960," plays up the most advanced ejection seat in being, SAC's B-58 seat with aircrew restraining devices.

"Sierra Sam," Convair's full scale dummy (who rode to Miami in the car with Bill Funk, design safety specialist) is outfitted in full flight equipment and is located in the exhibited ejection seat to demonstrate restraining devices and protective equipment.

Attending the meetings as repre-

sentatives of Convair are Dr. Z. N. Gaut, flight surgeon; B. A. Erickson, manager of FW flight; C. E. Bledsoe and C. R. Sierra, senior design engineers; and Funk, all of Fort Worth.

The display was prepared by FW service engineering illustrations group under the direction of design safety unit and furnishings design group.

### Extended Weekend Ahead For Convair

A three-day weekend is in store for Convair people over Memorial Day.

Since the legal holiday falls on Monday (May 30), work will be suspended at all operating divisions that day, giving employees a three-day holiday over Saturday, Sunday, and Monday. Work will be resumed at the regular time Tuesday (May 31).

Only people required to report to work May 30 will be those in essential functions.



**SAM AND FRIEND**—Betty Vestal, Dept. 3-4 at Convair FW, tries out B-58 escape capsule, while "Sierra Sam," full scale dummy, is strapped in latest ejection seat. Checking on display, now at Aerospace Medical Association convention, is Bill Funk, FW design safety specialist.

### E. R. Weiher Appointed FW Rep. at Stanley

E. R. Weiher, chief of process control, has been appointed resident Convair FW management representative at Stanley Aviation, Frank W. Davis, Convair vice president-FW manager has announced.

"Weiher's primary task will be to help coordinate and expedite delivery of an operational B-58 capsule," Davis said, "thus ensuring that we meet our current commitments to the Air Force."

Weiher will report directly to W. C. Dietz, chief of B-58 projects.

### IRE Elects Three Convair Engineers

Three Convair FW engineers were recently elected to top offices in the Fort Worth Section of the Institute of Radio Engineers for 1960-61.

They are D. G. Harman, project design engineer, chairman; W. D. Raymond, project test engineer, vice chairman; and D. R. Robertson, senior design engineer.

### Hicks Renamed Secy. Of Opera Association

Marion L. Hicks, Convair FW assistant manager-contracts, was recently re-elected secretary of Fort Worth Opera Association.

This season the group is slated to present "Samson and Delilah" by Saint-Saens, Verdi's "The Masked Ball," and "La Bohème" by Puccini.

### Budros Shifts From FW as Aide to Biron

James L. Budros, personnel manager at Convair Fort Worth since the fall of 1953, next week will report to General Offices as assistant to R. H. Biron, vice president-administration.

Budros succeeds Robert F. Smith who has left the company to be executive manager of the San Diego convention and tourist bureau. He formerly was chief of educational services at Astronautics.



J. L. Budros

A Convair man since 1942 when he was a safety engineer at San Diego operating division, Budros had experience in other industrial relations activities before transferring to Fort Worth in 1948 as head of the safety section. Later, education section was added to his responsibilities and in 1951 he was named labor relations supervisor. In 1953 he succeeded Fred Chambers as personnel manager when the latter became manager of industrial relations for FW.

Budros was graduated from San Jose State College, San Jose, Calif., and did graduate work at Stanford.

★ ★ ★

Dr. Charles L. Critchfield has resigned as Convair director of scientific research to become vice president-research of Telecomputing Corp. at Los Angeles. He will continue to serve Convair, however, as a member of the board of scientific consultants.

Dr. J. C. Clark has been temporarily appointed to the director of scientific research post.

### Phelps Reassigned; Kunzelman Named

Lt. Col. Roger Phelps, commanding officer of the USAF Auditor General's resident office at Convair San Diego, has been transferred to Washington, D. C.

He will be succeeded by Lt. Col. Charles Kunzelman, who is being transferred from Washington, D. C., to take over his new assignment at San Diego June 15. Capt. A. G. McManamon is in charge of the office until that time.

Lieutenant Colonel Phelps has been at San Diego since July, 1958. He was stationed at Convair Fort Worth for two years before his Convair SD assignment.



"E" FOR EXPERT—Pilots of 323rd FIS, Ernest Harmon AFB, Newfoundland, form "E" for cameraman to point up high rating as "Experts" in F-102As. Holding wings of 64th Air Division "A" award flag is R. J. Helm, Convair SD rep, and Lt. Col. A. J. Coleman, squadron commander.

## F-102 Squadron in Newfoundland Claims Most 'Expert' Pilots

A so-called "world's record" has been chalked up by an F-102 squadron, the 323rd FIS at Ernest Harmon AFB, Newfoundland.

The squadron now claims the largest number of pilots with the highest Air Defense Command proficiency rating. So far, 27 pilots are classified "Expert" in the unit's aircraft, the Convair-built F-102As.

Prerequisites for the rating include a minimum of 1,000 hours total time and 750 hours jet fighter time; a minimum of 50 hours actual weather time with 20 actual weather approaches; two years in an ADC fighter-interceptor squadron; a minimum score of 80 per cent for five actual firing or evaluated intercepts; a written and flight ex-

amination, and upgrading by a division, or higher, tactical evaluation team member.

Lt. Col. A. J. Coleman, squadron commander, had top flying time with 4,760 hours total, and 2,456 hours jet time. He was the first squadron commander in the Eastern Air Defense Force to be upgraded to Expert in the F-102A, in April, 1958.

In congratulating the squadron on its performance and accomplishment, Lieutenant Colonel Coleman pointed out that its success was directly related to the close cooperation and teamwork between all air and ground sections of the squadron.

Representing Convair SD at the base as field service representative is R. J. Helm.

## Fort Worth Junior Achiever Named Top Salesman in U.S.

Top junior salesman in the nation is Jerry Katz, president of Convair FW Management Club's Cojac Junior Achievement Company.

Katz won the national competition in New York when he sold a Cojac-made towel rack to Miss

## First F-106s Arrive At Tacoma, Wash.

First two F-106s scheduled for McChord AFB, Tacoma, Wash., arrived there in late March.

The 318th Fighter-Interceptor Squadron at McChord now is in the process of transitioning from the Convair-built F-102s to the supersonic F-106 interceptors, also built at Convair SD's Plant 2.

As soon as a full complement of F-106s, approximately 18, is received and pilots of the 318th are checked out in the new aircraft, the squadron will be placed on alert duty status.



WELL DONE—Col. Younger A. Pitts, squadron captain of top-scoring F-102 team at William Tell Weapons Meet last October, receives model of F-102 at April SD Management Club meeting from W. W. Fox, chief SD engineer. Pitts and other officers of 460th Fighter-Interceptor Squadron were guests at meeting.

## Engine Change Record Set

A record-breaking engine change for an F-106 was made during recent test flights of the Convair interceptor at Geiger Field, Spokane, Wash.

During checkout flights by C. E. Myers Jr., chief experimental test pilot for Convair, maintenance experts of the 84th CAMRON Squadron made an engine switch in just half the usual time.

Myers was in charge of flights proving out a modification installed on the F-106 engine to prevent transient yaw on takeoff. Tests had to be made with the shortest elapsed time possible between flights. A normal 8 to 9 hour engine change was completed in 4 hours, 20 minutes.

Maj. Charles W. Brown, 84th Fighter Group's chief of aircraft maintenance, said that the engine-change time was probably a world record and will be "an impossible target for other F-106 maintenance units to equal."

Convair SD field service representatives stationed at Geiger Field are C. I. Callison, T. S. Vaughan, and H. J. Schnaubelt.



F-106 CHECKOUT — Lt. Col. Norman W. Campion, commander of 539th FIS at McGuire AFB, N.J., receives silver delta pin from Convair SD field service representative Jim Day after recent checkout flight in F-106A.

## Trash Removal Train Running

A new train is making runs every day through Bldgs. 2 and 3 at Convair SD Plant 1 for systematic removal of refuse.

The trailer train, pulled by a jeep, went into operation recently to pick up full containers of trash and leave empty tubs at locations spotted throughout the two buildings. Under responsibility of B. R. Hisaw, chief of transportation operations, the new pickup system will keep the buildings cleared of refuse with a minimum use of manpower.

Tubs are hauled to the salvage yard for disposal.

At present, the jeep-propelled trailer train is making continuous runs starting at 8 a.m., although a schedule for regular pickup times will go into effect as soon as possible, said Ralph Montgomery, Dept. 21 foreman.

## Blair Host To Librarians

Keith Blair, Convair SD chief librarian, was host and chairman of arrangements for the May 7 gathering of Southern California chapters of Special Libraries Association at the Stardust Hotel at San Diego.

About 200 industrial librarians heard H. P. Luhn of IBM advanced systems development division, Yorktown Heights, N.Y., explain "Automation as an Aid to Librarians in Scientific Communications."

Following the meeting the entire group visited the Convair SD library and saw the 880 production area.

Blair is membership committee chairman for the newly-organized San Diego chapter of the national library group, while Lou Canter, Astro librarian, serves as treasurer.



TEST GROUP—In lower photo is Convair SD and AF team at Geiger Field, Wash., for demonstration of Convair-built F-106 engine test console (seen in upper shot). They are, left to right (front row): R. G. Latimer, B. Wiedermann, SAAMA, C. I. Callison, A. A. Martin, J. D. Powers, L. F. Ballou Jr., G. L. Faringer, Frank Offner. From left (back row) are J. F. O'Brien, SAAMA, Carl Zutter, Air Logistics Corp., G. J. DeLong, C. B. Cotten and D. G. Harris, SAAMA, E. M. Truitt, P. A. Wing, Paul Lyons, Roy Fullmer, J. L. Jonte. Not shown are Chief Warrant Officer J. W. Pahel, ADC rep, R. J. Reich, SD thermodynamics lab, and Ernie Flisrand, SD photographer, who took pictures.

## Test Console For F-106 Checks Demonstrated

First test console, being built at Convair San Diego under an Air Force contract for checkout of F-106 engines, was demonstrated late last month at Geiger Field, Spokane, Wash.

Designed to ease the task of line maintenance in F-106 squadrons, the quick engine change test console facilitates the checkout of interceptor engines and components before installation in aircraft. It can be operated by remote control with a portable control panel mounted in the test building where operators can detect faulty engine operation.

First test console has been assigned permanently to Geiger Field, with the next three pre-production articles slated for McGuire AFB, N.J., Andrews AFB, Md., and Minot, N.D. Two probably will be completed and ready

for delivery this month.

Under the current contract delivery on 12 production units will start by the end of this year.

San Diego's propulsion design group, under P. W. Corbett, group engineer, has been responsible for concept of the QEC test console. Dept. 31 is in charge of production.

A group of 14 Convair SD men from engineering, service parts, service publications, and experimental departments, headed by L. F. Ballou Jr., design specialist in SD propulsion, accompanied the first unit to the Spokane base. They were: R. G. Latimer, A. A. Martin, J. D. Powers, G. L. Faringer, Frank Offner, G. J. DeLong, E. M. Truitt, P. A. Wing, Paul Lyons, Roy Fullmer, J. L. Jonte, R. J. Reich, Ballou, and Ernie Flisrand, SD photographer.

## Persistence Pays as Astro Girl Literally Plays 'Numbers Game,' Wins Paris Trip

When in doubt—count!

It pays, according to Astrodynamics' Annea Nicholson (Dept. 120-6) who departs this month for a free trip to Paris where she will have the use of a French car and a \$400 wardrobe.

A local foreign car agency staged a contest. One of their cars was literally covered with the call letters of a radio station. Participants were asked to guess how many times the call had been repeated.

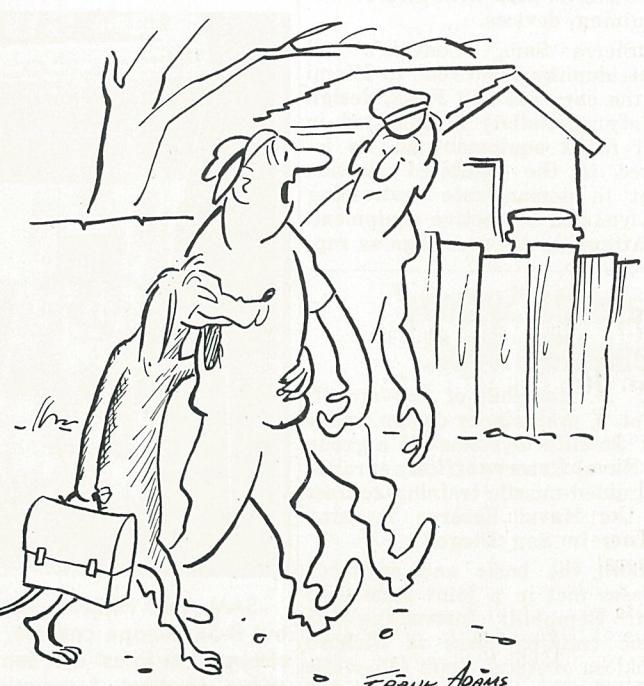
Most people did just that—

guessed. Annea and her parents didn't. They spent several hours counting. It paid off. Annea placed first with her mother and father finishing second and third.

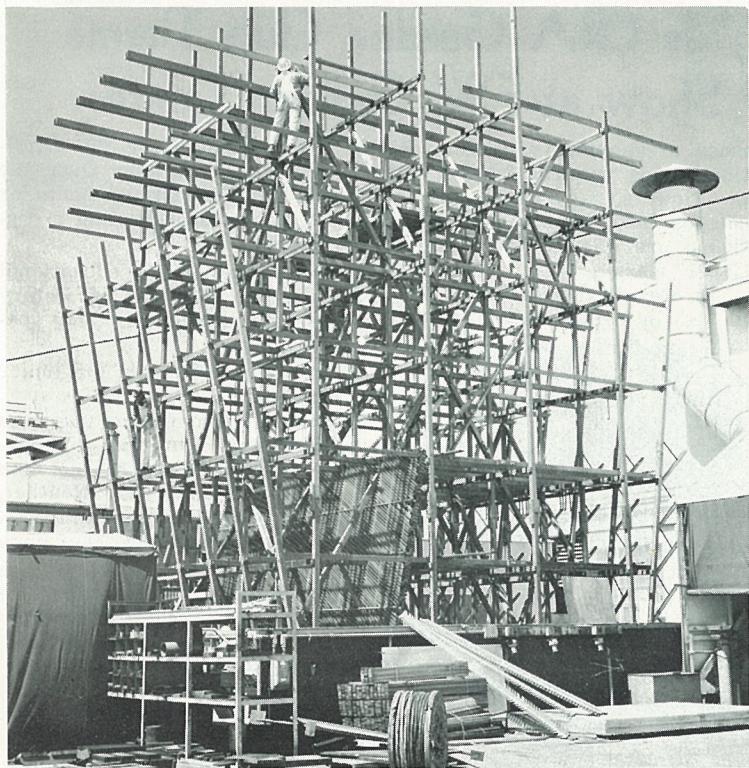
(Annea counted 1,542. There were 1,545!)

The Astro artist and her parents had been saving for years to visit Norway where all were born.

With the contest winnings, plus their savings, Annea and her mother will visit Norway, plus various other points in Europe.



"I made my first mistake when I named him 'Pal' . . ."



**WATER COOLER**—First stage in cooling water for new air conditioning system for Bldgs. 5 and 51 at SD Plant 1 is 46-ft. tower shown under construction in experimental yard. 4,400 gallons will pass through tower every minute.

## SD Bldgs. 5 and 51 Air Conditioning Ready For Action This Month

Occupants of Bldgs. 5 and 51 at Convair San Diego Plant 1 will be revelling in cool air by next week.

Air conditioning system for the engineering buildings will be complete and ready to be turned on by May 14, said H. A. Smith, chief plant engineer.

The 46-ft. water cooling tower just erected in experimental yard at the rear of Bldg. 5 was final installation for the system. One of the first of its type to be built in San Diego, the cross-flow tower cools the water used in the air conditioning refrigeration system.

Pumped continuously through the tower, water is cooled from 98.5 degrees to 80 degrees. Capacity is 4,400 gallons per minute.

Temperature of the water is then brought down to 45 degrees in the refrigeration unit. Air within the buildings is chilled as it passes over the cold water coils.

Marley Co., cooling tower manufacturers of Kansas City, Mo., was in charge of construction of Convair SD's tower with William Crail Construction Co. installing piping; Chula Vista Electric Co., electrical wiring; and A. Rossi Construction Co., concrete work.

## NEWS FROM OTHER DYNAMICS DIVISIONS

General Dynamics Corporation, created in April, 1952, as successor to Electric Boat Company, is composed of seven divisions and a Canadian subsidiary, Canadair Limited, of Montreal, airframe builders. The divisions are:

Convair, head offices at San Diego, Calif., aircraft, missiles, and space systems.

Electric Boat of Groton, Conn., submarines.

Stromberg-Carlson, of Rochester, N. Y., telecommunications, electronic equipment.

Liquid Carbonic of Chicago, Ill., carbon dioxide producer, industrial and medical gases.

General Atomic of San Diego, Calif., nuclear research, development, production.

Electro Dynamic of Bayonne, N. J., electric motors, generators.

Material Service Division, Chicago, Ill., building materials, concrete products and coal.

## Design Program Wins Award

The Art Directors Club of New York has presented General Dynamics Corporation with an "Award to Management" for its 1959 design program.

Frank Pace Jr., chairman of the board, accepted the award on behalf of the Corporation. The award citation said the presentation was made "...for the inspired, integrated design program of General Dynamics, resulting in consistently high standards of excellence in its corporate identity."

Dynamics also received an award of distinctive merit for its 1958 annual report.

## John Thurston Named Special Projects VP

NEW YORK—John F. Thurston has been promoted to the position of vice president for special projects of General Dynamics Corporation.

Thurston, who was formerly general manager of the corporation's Electro Dynamic Division in Bayonne, N.J., has been with General Dynamics in that position since 1955. He became a vice president of the corporation in 1957.

## Pace on Institute History Program

Frank Pace Jr., chairman of the board of General Dynamics Corporation, was among the more than 50 Americans honored by the Research Institute of America as "those who have made history" during the past 25 years.

A pageant celebrating the 25th anniversary of the institute, featured a filmed record of the "The living history of the critical years, 1935-1960." Prepared by historian Allen Nevins, the historical record was flashed on a giant screen for an audience of 1,500 people.

Television cameras picked out from their positions on the dais those who had helped make the history, showing their pictures on the screen at the appropriate moment.

## Welsh Resigns as VP, Forms Own Concern

NEW YORK—Vernon M. Welsh, vice president for communication of General Dynamics Corporation, has resigned to organize his own communication consultation business. As an independent consultant Mr. Welsh will continue to be associated with General Dynamics on specific projects.

## Control of Consolidated Aircraft Passes From Reuben Fleet to Avco

(This installment in Convair's continuing history, No. 34, covers a shift in control of Consolidated and concludes Reuben Fleet's active participation in Consolidated's affairs.)

Reuben Fleet was only 54 and his company was expanding vastly, but he decided during 1941 to sell his holdings and retire.

Looking back on this move 15 years later, he gave near-confiscatory taxes as his prime incentive. The federal government took about 93 per cent of his income and the State of California 6 per cent, he recalled. "I couldn't see carrying that load of poles any longer."

Fleet must have been growing restive, too, under conditions he never had been willing to tolerate: increased "meddling" in company affairs by the defense agencies directing industrial mobilization; and loss to sheer bigness of the close, one-man direction he always wanted to exercise. (He still retained the three top titles—chairman, president and general manager.)

His stockholdings (nearly one-third) would give any purchaser control of the company. Since Consolidated was a key producer in Army-Navy aircraft schedules, many in Washington were concerned that competent management be found. Among officials who took part in recurrent dis-



**FOUNDER**—With this installment of Convair's history, Founder Reuben Fleet retires from scene. Above is recent picture of Fleet.

cussions of "finding a buyer," Fleet has listed Navy Undersecretary James V. Forrestal, Rear Adm. John H. Towers, chief of the Bureau of Aeronautics, War Undersecretary Robert P. Patterson and Gen. H. H. Arnold.

As early as July, 1941, there was a Washington-sponsored proposal that the Aviation Corp., a holding company, swing the transaction through its manufac-

turing subsidiary, Vultee Aircraft Corp. of Downey, Calif. Victor Emanuel, Avco president, had a four-day survey made at San Diego early in August by Vultee's top men, Harry Woodhead, chairman, and Richard W. Miller, president. Negotiations with Fleet ensued, but Avco withdrew in mid-August.

There were more fruitless suggestions from Washington. In October Fleet was considering the possibility of offering his stock at public sale. The Avco negotiations were revived soon afterwards, however, and it was announced Nov. 28 that Vultee would purchase the 440,000 shares owned or controlled by Fleet (34.26 of the total outstanding) for \$10,945,000. Transfer of stock was effected Dec. 19 and the Avco-Vultee management took over.

## Last Message On Christmas

Consolidated Aircraft's house magazine, "Consolidator," carried in its December, 1941, issue Reuben Fleet's "Christmas Message," which, incidentally, was his last message as head of the company. (Evidently, it was written prior to Pearl Harbor.) Following are excerpts, reminiscent of the grim outlook of those days.

"It would seem difficult to wish anyone a Merry Christmas this year . . . The tangle of world events, the unholy morass of world thought and philosophy, lead one to the seemingly inevitable conclusion that A.D. 1941 must be chalked up as a complete loss."

"This, fortunately, is a misconception. No year, no month, no minute of human life is really lived in vain . . . It has been a year in which cloudy ideals have been sharpened by the swift change of events, when hazy principles have been brought into focus by the necessity for quick, sure action . . ."

"True, we have had to change during the last year. We were getting soft. We were taking it easy, resting upon the smugness of our geographical location and delusions of our own grandeur. But gradually it came to us that our closest international kin was actually endangered. Above the coastal roar of guns along the English Channel, above the din of Stukas diving upon Britain's populace, it came to us that we were no longer safe."

"The (Christmas) spirit of giving has never been more apparent or more necessary as a national policy. We have given much of our substance during the past year. We shall give more of our substance and of our spirit during the next. Sacrifices made during 1941 will seem insignificant indeed compared with those we shall make before this battle is won . . ."

## Security Risks We Can Do Without



EVEN STEPHEN

"Well, gosh, he told me all about his job in the pants factory—least I could do was tell him about mine!"

## X-15 Pilot Inspects B-58; May Fly to 50 Miles Up

Joe Walker, who may soon make the first manned flight into space, considers the B-58 cockpit "practical and functional" and the flight prospects of the Hustler itself "exciting."

Walker browsed around the B-58 pilot's cockpit during a brief conference here recently with B. A. Erickson, Convair FW manager of flight.

He stopped over en route to his Lancaster, Calif., home, following a speaking engagement before the IAS at SMU.

Walker, a pilot for National Aeronautics and Space Administration, even looks forward to the day when NASA "might possibly" get a Hustler for evaluation and research purposes.

"It's not out of the question, and we'd love to have the plane," he said.

Either Walker or the Air Force's Maj. Robert White is currently scheduled to take the famed X-15 on man's first flight into space—probably early in 1961. The two pilots are now putting the plane through its supersonic paces at NASA Flight Research Center at Edwards AFB.

Plans now call for the needle-nosed X-15 to make a 50-mile probe into space, reaching a maximum speed of about 4,000 miles an hour.

Such a foray would double the existing altitude record for manned aircraft. Walker feels confident the flight will go off "as advertised."

"In X-15 flights to date we've flown over 80,000 feet and at speeds of Mach 2.6—about 1,700 miles an hour," Walker said.

The X-15 is now being flown with interim engines, which will soon be replaced with engines of design specification.

"We'll probably spend this summer checking out the new engines and getting everything in order for the flight in 1961," Walker commented.

A veteran P-38 pilot of World War II who has flown virtually every type of supersonic aircraft in the air today, Walker thinks the X-15 is "easy to handle" and capable eventually of reaching its maximum design altitude of 100 miles.

After World War II, Walker flew for the National Advisory Committee for Aeronautics, fore-runner of NASA.

The man who may, by this time next year, have flown faster and farther up than any other human, foresees a decade of even greater speeds.

"I wouldn't be surprised to see men reach orbital velocity (about 20,000 feet a second) during the decade," he said.



**PORTRAITURE**—Gene Eichholtz, right, speaker for next CRA Camera Club meeting, shows Bill Johnson, president of club, samples of portrait photography he will use in his lecture and demonstration on the subject.

### 'Portraiture'

## Gene Eichholtz Presents Lecture To CRA Camera Club Members

Gene Eichholtz, one-time studio photographer who is now an engineer with the mechanical design group, will present a lecture and demonstration on portraiture at the May 11 meeting of the CRA camera club.

His lecture will cover posing of models, lighting arrangement and background effects. He will rely entirely on CRA camera club equipment, and his models will be selected from the audience.

Although Eichholtz is no longer a professional photographer, he spends a great deal of his spare time working with photo-

graphy as a hobby. He does portraits of friends and takes many publicity shots for Wing and Masque.

Underwater photography is a specialty with the club lecturer, and he has designed and built a lot of his own equipment for taking deep sea pictures.

W. S. Johnson, camera club president, urges club members to bring their families and cameras to take advantage of this opportunity to obtain some good family portraits.

The meeting will begin at 7:30 p.m. at CRA Clubhouse.

## Log Book Entries

### Promotions

#### FORT WORTH

Promotions to and within supervision, professional and administrative effective April 25:

Dept. 6: to aerophysics engineer senior, R. S. MacKenzie; to design engineer, C. J. Cheatham Jr., G. L. Grubine; to design weight engineer, J. R. Collin, R. D. Gordon; to propulsion engineer senior, V. H. Pierce; to test engineer senior, R. A. Cord, J. S. Green.

Dept. 7: to factory special assignment man, E. H. Segars; Dept. 10: to project budget coordinator, W. W. Peterson; Dept. 16: to project industrial engineer, G. T. K. Durland.

Dept. 17: to engineering illustrator, T. A. Burns; Dept. 27: to quality control liaison man, N. B. Wardlaw; to senior vendor quality control representative, K. R. Moore; to vendor quality control representative, J. H. Nealey.

Dept. 28: to metallurgist senior, J. G. Hargrove; Dept. 48: to assistant foreman, J. H. Ragsdale; Dept. 54: to assistant foreman, B. T. Powell.

Dept. 64: to assistant general foreman, G. L. Hutchinson; Dept. 94: to assistant foreman, T. R. Autrey; Dept. 96: to assistant foreman, J. H. Minshew, H. E. Thomas.

### Awards

The following received Employee Suggestion awards totaling \$2,825.35 for the period ending April 26:

Dept. 4, E. L. Birdwell; Dept. 14, J. B. Fussell; Dept. 17, L. D. Perricone; Dept. 19, J. DeGroat, N. C. Dickson.

Dept. 24, A. C. Smith; Dept. 25, M. C. Boyd, W. G. Decker Jr., H. H. Powell, E. Steen; Dept. 27, E. T. Talasek, M. K. Wylie.

Dept. 29, W. W. Stephenson; Dept. 30, L. R. Glass, J. T. Jernigan, E. F. Linehan, H. McMurtry, B. E. Rankin, H. D. Vaughan, C. L. Williams.

Dept. 31, P. T. Bevil, J. E. Cody, R. L. Tomlin; Dept. 32, M. M. Booth, E. C. Hunnicutt; Dept. 34, V. Martin.

Dept. 35, B. G. Armstrong, H. C. Brown, J. A. Ecker, F. G. Edwards, R. G. Glenn, J. D. Overstreet, S. P. Wrzesinski.

Dept. 36, G. E. Coombes; Dept. 41, J. E. Harper; Dept. 53, L. C. Johnson; Dept. 54, L. L. Edgar, B. R. Mackey.

Dept. 55, C. H. Reese; Dept. 56, W. T. Harwell, H. M. House, W. T. Worrell; Dept. 59, J. V. Campbell, G. H. Mayfield.

Dept. 63, H. G. Mosier Jr.; Dept. 64, W. Q. Cribbs, W. D. Graves, J. T. Hatchcock, V. W. Waggoner.

Dept. 74, C. R. Johnson, G. M. Joiner, D. B. Jones Sr.; Dept. 75, W. R. Fisher, H. W. Whitworth, W. J. Morrison; Dept. 82, J. T. Lloyd Jr.; Dept. 89, R. L. Hearn.

Also M. E. Smith, formerly of Dept. 31;

H. A. Smith, formerly of Dept. 32; L. D. Richardson, formerly of Dept. 59; R. O. Mendenhall; and K. R. Creamer, formerly of Dept. 82.

### Retirements

HAYWORTH—R. M., Dept. 20. Seniority date August 30, 1943 (FW), retirement effective April 29, 1101 S. Haynes, Fort Worth, Texas.

RIGSBEE—J. E., Dept. 81. Seniority date Feb. 13, 1949 (FW), retirement effective April 29, 617 Shawnee, Grand Prairie, Texas.

WILLIAMS—G. C., Dept. 81. Seniority date Aug. 14, 1942 (FW), retirement effective May 3, 2921 Lubbock, Fort Worth 9, Texas.

### Deaths

GLENN—J. G., Dept. 32, died April 22. Survivors include his wife, two sons and one daughter.

HALE—R. C., Dept. 22, died April 27. Survivors include his wife, parents, two sons, two sisters and grandmothers.

HOLAMAN—H. O., Dept. 25, died April 26. Survivors include his wife, three daughters, one son, 11 grandchildren and seven great grandchildren.

YAGER—R. C., Dept. 6, died April 26. Survivors include his wife, three sons, parents, and one brother.

### Personals

Gratefully acknowledging and thanking you for your kind expressions of sympathy. A. J. Morris and Family, Dept. 15.

### Hitchhikers

Riders Wanted From Southside, TCU area, 3:45 p.m. shift, call P. L. Cheatham, ED 6-8653.

Ride Wanted From Browning Heights, Halton City Area, 8 a.m. shift, call Jim Griffin, TE 8-0975; 715 Meadow Park (White Settlement); 7 a.m. shift, call D. B. Stansel, CI 6-1368.

### Car Pools

MEMBERS WANTED from North Hills Addition, 7 a.m. shift, call B. F. Taylor, TE 4-3524.

### Lost and Found

FOUND—one set jr. mount rings 1-inch regular. Found in lot #1. Inquire at Security Dept.

Also M. E. Smith, formerly of Dept. 31;

## Convariety

First Place Winner  
International Council of Industrial Editors

Founded Sept. 1, 1948. Published in six editions (Fort Worth-Daingerfield, San Diego, Pomona, Astronautics, Mail Edition and Antelope Valley-Holloman) by Convar Industrial Relations, General Offices, San Diego, Calif., Logan Jenkins, editor. Approximate current total circulation, over 65,000. News items and letters to the editor are solicited, but no advertising can be accepted.

SD Editorial Offices, Building 32, Plant 1, ext. 1071. Staff: Grayce Fath, Helen Pemberton, Fred Bettner.

FW Editorial Offices, Col. 73-C, Ext. 2961. Mailing Address: Convariety, Convar, Fort Worth, Texas Telephone PE 8-7311. Staff: Dave Lewis, Fort Worth editor; Susan Bagby, Mary Beck.

Astronautics Editorial Offices, Bldg. 2, new plant, ext. 1154. Staff: Bryan Weickesheimer, Astronautics editor; Alyce Martin.

Pomona Editorial Offices, Room K-222, Bldg. 2, ext. 6226, mail zone 3-8, Staff: James Combs Jr., Pomona editor; Dorothy Keller.

Antelope Valley Editorial Offices, Room 103, Bldg. 301B, Palmdale, ext. 337. Staff: Richard L. Millett.

## 'Missile Launching' Is CRA Garden Club Theme For Spring Flower Show at FW Garden Center

"Missile Launching" is the theme for the annual CRA Spring Garden Show set for May 21 at the Fort Worth Garden Center. Names of classes in the Artistic Division carry out the theme with such titles as "Cape Canaveral Blast Off" and "Missile Over the Caribbean."

mass arrangements or compositions using tropical foliage with no flowers. Arrangements or compositions using a calypso theme are eligible for "Calypso Caper" class.

An oceanic theme must be employed in arrangements entered

in the "Missile Over the Caribbean" class. "Sailing Over the Desert" is for arrangements or compositions incorporating a desert theme.

Two classes in the educational division are displays of library books and scrapbooks and special displays.

A fourth division is for junior exhibitors.

General committee members include Ray Pluskey, commissioner; R. E. French Jr., club president; John H. Reuther, flower show chairman; and Mrs. Eddie Ware, show vice chairman.

Special committee heads are Mary Kathryn Smith, schedule; Mr. and Mrs. Esca Brown, staging; Mrs. C. W. Thelen, entries; Mrs. W. R. Long, classification; Betty Bayne Shafer, publicity; Doris McKee, hospitality; Mrs. Bobbie French, judges and awards; Mrs. Ruth Goulette, education; and C. L. Rothacher, junior division.

There will be first, second, third and honorable mention ribbons for each class.

Special awards include tricolor for an artistic exhibit predominantly of fresh plant material; an award of distinction for an artistic exhibit predominantly of dried, cured or treated plant material; an award of merit for the most outstanding cut specimen; and sweepstakes award for the most blue ribbons.

## Polynesian Village Site for Women's May 21 Style Show

The Ming and Jade Room of the Western Hills' new Polynesian Village will provide the setting for CRA women's activity luncheon and vacation style show May 21 at 1 p.m.

Midst exotic South Seas decor, first and second shift ladies will be served a "dainty salad" luncheon and will view models from Cox's department store as they show latest fashions in bathing suits and sport clothes for upcoming vacation travels.

Sextets from Castleberry High School will entertain.

Tickets are \$1.75 a person and may be purchased at CRA office. Women's activity Co-Commissioners Lois Cole and Helen Baggett say ticket supply is limited and advise early purchase.

## The Passing Years

Fort Worth

The following emblems were due during the period June 1 through June 15:

Twenty-year: Dept. 6, G. T. Carter, D. A. Redwine.

Fifteen-year: Dept. 6, E. E. Hile; Dept. 8, O. Magnusson; Dept. 22, J. D. Parnell; Dept. 24, J. D. Dupree, W. M. Frye, M. A. Matelan.

Dept. 25, D. Hornbuckle; Dept. 27, R. L. Johnson, C. W. Manasco; Dept. 29, J. W. Smith.

Dept. 36, C. D. Morrison; Dept. 48, J. H. Millsap; Dept. 54, T. P. Phillips, M. F. Spurlen.

Dept. 59, O. E. Henderson, R. L. Jones; Dept. 73, O. W. Johnson; Dept. 75, E. M. Sell.

Dept. 81, A. R. Elton; Dept. 94, W. T. Swan; Dept. 95, P. B. Burris; Dept. 96, W. E. Burd.

Ten-year: Dept. 2, H. L. Mills; Dept. 4, L. C. Acker, B. P. Ashcroft, E. E. B. Blue, R. G. Malone, L. E. Veal.

Dept. 6, W. T. Allen, W. B. Bennett, J. W. Dickey, L. R. Lewis, L. E. Lightfoot, J. M. Ratliff, R. R. Requa.

Dept. 8, R. J. Combest; Dept. 11, J. A. Earle, B. G. Hileman, J. D. Sharber.

Dept. 15, B. B. Burgess, E. S. Davis Jr., J. T. Graham, M. S. Guinn, R. Harrison, E. E. Rennicks, H. V. Richey, R. Richey, T. J. Stirz, C. J. Stout, M. W. Thompson.

Dept. 20, J. W. Ivie, C. Smith, G. W. Whiffield, E. R. Wilson; Dept. 21, R. E. Ford.

Dept. 22, D. G. Brew, S. F. Shelvey, J. Stanley; Dept. 23, W. R. King Jr.; Dept. 24, J. E. Chaney.

Dept. 25, L. H. Roberts, C. Smith, J. D. Walker; Dept. 27, C. D. Courreges, S. Gullion Jr., C. C. Havens.

Dept. 29, H. E. Martin, L. D. Park, J. J. Wilhite; Dept. 32, C. O. Smith; Dept. 33, H. E. Carter.

Dept. 36, E. H. Matthews, P. A. Porter Jr.; Dept. 64, A. M. Hestilow Jr., R. W. Young, B. F. Yung Jr.

Dept. 65, B. J. Orren; Dept. 73, W. W. Waits; Dept. 74, D. C. Davis; Dept. 75, J. M. Baggs, V. R. Kardell; Dept. 81, J. Bowen, C. V. Ownbey; Dept. 85, R. E. Squyers.



ASSUMES LEAD—Finn Wahl, left, retiring CRA president, turns over gavel to new president, Art Gilligan, at recent installation of 1960-61 officers.



MUSCLEMEN—Winners in all weight divisions of CRA weight lifting contest smile for photographer as they pose with trophies.

## CRA Table Tennis Activity Sets Tournament Deadline for May 18

May 18 at 4:45 p.m. is the deadline for registration for the 1960 Spring CRA Table Tennis Tournament, scheduled for CRA Area on the afternoon of May 22.

Any Convair employee or member of his family is eligible

## Bi-Weekly Archery Activity Is Slated For Sunday Afternoons

Bi-weekly archery shoots at CRA Area are beginning with the coming of fair weather. They will be held at the archery range every first and third Sunday, with registration at 1:30 and actual shooting starting at 2:30 p.m.

At a recent organizational meeting of the archery activity the following officers were elected:

C. R. Corns, president; B. R. Francis, vice president; Gail Alexander, secretary; Johnnie Bethany, treasurer; Terry Voss, reporter; and Howard Lucas, field captain.

Members voted a \$1 a year membership fee. Membership cards are now available at CRA office.

## Andrea Reynolds Is 'Girl of Year'

Andrea Sue Reynolds, 15, daughter of A. W. Reynolds Jr., Dept. 7-2, is "Girl of the Year" at Broadway Baptist Church.

She was awarded a gold charm by Mrs. H. Guy Moore, wife of the church's pastor.

Andrea Sue is a sophomore at Arlington Heights High School.

to enter, and no CRA membership card is necessary.

A blanket fee of 50 cents which covers all events, will be charged upon tournament registration.

Entry blanks are available from the CRA office or from the following tournament committee members: John Ranger, L. A. Sandquist and Mounty A. Burt, table tennis commissioner.

Scheduled events include men's singles and consolations, men's doubles, ladies' singles and consolations, mixed doubles, senior (40 years and over) men's singles, and junior boys' and girls' events for ages 17 and under.

Trophies will be awarded to winners and runner-ups in all events except ladies' singles consolation, where only the winner will receive a trophy. In addition, semi-finalists in the men's singles will be presented with trophies.

## New Friday Bridge Classes Set May 13

New Friday evening bridge classes for beginners and intermediates will begin at CRA Clubhouse at 6:30 p.m. May 13. The hour to hour and a half classes will run for six weeks.

An advanced class will begin May 17 and run for four weeks. Time will be 9:30 a.m. at CRA Clubhouse. Each class session will last about two hours.

Fee for both class sections is \$3 a person. It may be paid at the CRA office. If unable to register in person at the office, you may make a telephone registration at ext. 2771.

## Jack Little Wins Mr. CRA Title In 1960 Contest

Jack Little, Dept. 81, is Mr. CRA for 1960. He was selected from a field of CRA physique contest entrants at the annual weight lifting - physique contest April 23 at CRA Clubhouse.

Second place went to Lawrence Burks.

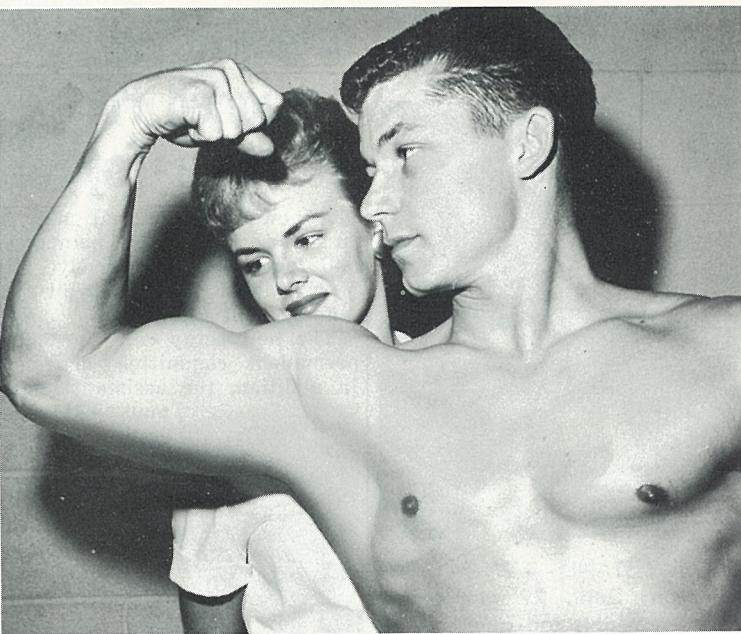
Milton Lowry was chosen Mr. CRA Senior, while second place winner was Ed Wright.

Weight lifting winners, in their weight divisions, were:

Larry Young, first; Milton Lowry, Jr., second; under 123 pounds. Pete Ludwick, followed by Dale Jensen: 124-132; Billy Ludwick, trailed by Roy Pacheco: 133-148.

Richard Hill, first, and David Tomlinson, second: 149-165; Renne Hughes, first, and Tom Hammer, second: 166-181; Milton Lowry, with runner-up Ed Wright, 182-198; and Jim Davis followed by Lawrence Burks: 199 and up.

Weight Lifting Commissioner H. L. Carter said the largest crowd in contest history witnessed the competition.



WOW!—Mr. CRA, Jack Little of Dept. 81, displays form that won him title in recent CRA physique competition. Looking on is his fiancee, Judy Coder, grand daughter of C. M. Coder, Dept. 35.

## May 15 Next

## Go Karters Choose Van Dyke; Stepp Wins Two Sunday Races

C. H. Van Dyke is new president of CRA Go Kart activity, with O. J. Stepp selected to serve as vice president and R. J. Heist as secretary.

Next bi-weekly races will be at 2 p.m. May 15 at CRA Area Go Kart Track.

Neal Stepp turned on the speed in the last races to come in first in the Fast Car Heat and the Men's Trophy Dash. He was followed in the fast car race by Jerry Levisee and Bill Barnett.

Sam Levisee, Go Kart commissioner, won first place in the Heat Race and the Handicap Trophy Race. Jerry Levisee was first in the Men's Australian Pursuit.

Mrs. Bill Barnett swept two of the ladies' races, coming first in the Ladies' Trophy Race and the Ladies' Australian Pursuit. Jeanette Yeager was winner in the Ladies' Heat Race.

Two-time winner in junior races was Jay Mills. He took the honors in the Boys' Trophy Race and the Boys' Australian Pursuit. Bob Campbell was victor in the Boys' Heat Race.

In a special event, a tag-team race, Bill and Bob Campbell came in first. Second place went to Bobby and Dick Heist, followed by S. C. Joiner and Rickey Allmon.

## CRA Bowlers Now Organizing Summer Leagues

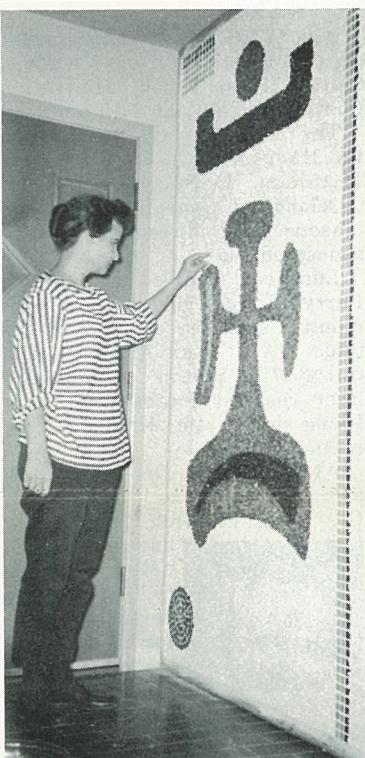
It's almost time for summer bowling leagues to be organized. Bowling Commissioner Harry Carlberg requests that persons interested in forming these leagues contact him at ext. 2818 or PE 7-6241.

As winter leagues wind up their season, Triangle Inn team emerges victorious in Engineering Test Lab League.

Other leaders, with only one or two league nights remaining, include Crooked Lines in the Engineering league and Angelos Bar-B-Q in 850 Twilight league.

Nodes are two points ahead of the Exads in century league. Supersonics are first in CRA Second Shift league, and a tie between the Four Pence and the Alley Cats exists in Classicettes (all girls) league.

There are no reports from B-58, Guys and Gals, and CRA Sunrise Mixed leagues.



MOSAIC—Mrs. C. R. Nunley, wife of C. R. Nunley, Dept. 24-6, poses with original mosaic she designed and made for their home.

## Junior Baseball Clinic, League Play Opened

CRA junior baseball got underway last week with regular games and the beginning of the annual Junior Baseball Clinic.

In first games of the season the Hustlers took the Panthers with a score of 5-2. After two extra innings in a close-fought game the Indians edged the Eagles, 8-7.

The second half of the two-weekend baseball clinic will be held May 12 for boys 13-15 years old and May 13 for those 12 and under. All-star games for the two groups will be May 14.

A special post-all-star clinic session will be held May 18. Clinic instructors will give analyses of each boy's game during the all-star events.

## Smith to Head Auditors' Group

Oliver Smith of Coburn's Cafeteria will head the Fort Worth Chapter of the Institute of Internal Auditors for the coming year.

Also elected at the group's last meeting was Bill McCamy of internal audit. He will serve as vice president.



HUSTLERS—Hustlers, CRA little league baseball team, pose after first game of season. They beat Panthers, 5-2.



INDIANS—Strong contender in CRA little league, Indians edged Eagles 8-7 in season opener.

## Activities Calendar . . .

Convair Recreation Association events in the next two weeks are listed below. Readers interested may clip this column and save it for reference until next issue of CONVAIRITY. For more information, phone CRA office, ext. 2771 at Fort Worth, ext. 424 at Daingerfield.

### Fort Worth

**Tonight, May 11**  
ASTRONOMY: film, 7:30 p.m., CRA.  
CAMERA: meeting, 7:30 p.m., CRA.  
RANCH ACTIVITY: roping, 7:30 p.m., CRA.  
SOFTBALL: Convair league play, 7:30 and 9 p.m., CRA.

**Thursday, May 12**  
ART: awards presentation, 7:30 p.m., CRA.

RADIO: operating, 7:30 p.m., CRA; 50.79 mc on the air, 8 p.m.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SOFTBALL: Second shift, 10 a.m., CRA; Engineering league play, 7 and 9 p.m., CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

**Friday, May 13**  
BRIDGE: duplicate session, 7:45 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

SOFTBALL: Convair league play, 7:30 and 9 p.m., CRA.

**Saturday, May 14**  
ASTRONOMY: work parties, 9:30 a.m.-2 p.m., CRA.

SNACK BAR: open 9:30 a.m.-2 p.m., CRA.

**Sunday, May 15**  
ARCHERY: shoot, 2:30 p.m., archery range, CRA.

GO KART: race, 1:30 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.

SNACK BAR: open 2-7:30 p.m., CRA.

TABLE TENNIS: play, 2 p.m., CRA.

**Monday, May 16**  
MOVIE: "Seminole" (color), with Rock Hudson. Show lunch period, 50-foot aisle.

VOLLEYBALL: league play, 6:45 p.m., Southside Recreation Building.

**Tuesday, May 17**  
BADMINTON: play, 7:30-10 p.m., Stripling Junior High School.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SKIN DIVING: meeting, 7:30 p.m., CRA.

SOFTBALL: Engineering league, 7 and 9 p.m., CRA.

STAMP CLUB: auction, 8 p.m., CRA.

**Wednesday, May 18**

ASTRONOMY: CRA telescope open to public, 7:30-11 p.m., CRA.

BRIDGE: duplicate session, 9:30 a.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., CRA.

SOFTBALL: Convair league play, 7:30 and 9 p.m., CRA.

**Thursday, May 19**

RADIO: operating, 7:30 p.m., CRA;

50.79 mc on the air, 8 p.m.

RANCH ACTIVITY: cutting, 6-8 p.m., CRA.

SOFTBALL: Second shift, 10 a.m., CRA;

Engineering league play, 7 and 9 p.m., CRA.

**Friday, May 20**

BRIDGE: duplicate session, 7:45 p.m., CRA.

CHESS: meeting, 7:30 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

SOFTBALL: Convair league play, 7:30 and 9 p.m., CRA.

**Saturday, May 21**

ASTRONOMY: work parties, 9:30 a.m.-2 p.m., CRA.

GARDEN CLUB: Flower show, 2-5 p.m., Garden Center.

SNACK BAR: open, 8:20 a.m.-2 p.m., CRA.

**WOMEN'S ACTIVITY: style show, 1 p.m., Western Hills Hotel.**

**Sunday, May 22**

RADIO: business meeting, 3 p.m., council room, CRA.

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.

SNACK BAR: open, 2-7:30 p.m., CRA.

TABLE TENNIS: tournament, 2:30 p.m., CRA.

**Monday, May 23**

MOVIE: "Tattered Dress," with Jeff Chandler. Show lunch period, 50-foot aisle.

VOLLEYBALL: league play, 6:45 p.m., Southside Recreation Building.

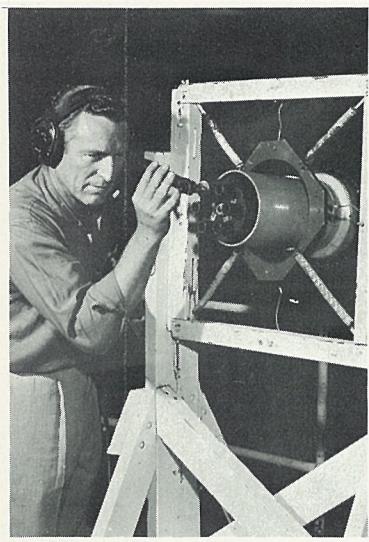
**Tuesday, May 24**

BADMINTON: play, 7:30-10 p.m., Stripling Junior High School.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

**Wednesday, May 25**

BRIDGE: duplicate session, 9:30 a.m., CRA.



**NEW STAND** — W. W. Stephenson, Dept. 29 at Convair FW, boresights tail gun of B-58 Hustler while standing on new tail stand, now in use because of his money-saving Employee Suggestion. New stand takes place of five separate pieces of equipment formerly required.

## Convair Mourns Lost Crewmen

Funeral services were held last week for Ray E. Tenhoff, 38, and Walter Simon, 30, Convair FW pilot and senior flight test engineer on the B-58 Hustler which crashed April 22 into the Great Salt Lake, Utah.

Their bodies were found in the wreckage of the bomber, which was pulled from the lake after an all-out land-air-water search involving Air Force, Navy and Convair personnel and equipment.

Services for Tenhoff were held at St. Jude's Episcopal Church at Burbank. Burial was at Forest Lawn Memorial Park in Glendale, Calif. He is survived by his wife, Jane Ann; three sons, Todd, Winston and Lee; and two stepdaughters, Dianne and Donna Neally.

Simon was buried at Laurel Land Memorial Park after services at Crowder & Brooks Funeral Chapel. Survivors are his wife, Margarita, and two daughters, Julie and Evelyn.

Occupant of the third station in the Hustler, Kenneth G. Timpson, flight test engineer, was safely rescued following ejection from the plane.

## Polly Riley Scores New Course Record

Polly Riley, Dept. 2-5 at Convair FW, set a new course record at Metairie Country Club in New Orleans recently when she turned in a two-under-par 72 to win medalist honors in the qualifying round of the 45th women's Southern Amateur Golf Tournament.

Five-time winner of the title, Polly scored a 37-35 which trimmed one stroke off the previous women's record.

## First Woman to Ride in B-58 'Thrilled' With Desert Flight

A WAF acoustics expert from the USAF Aerospace Medical



**B-58 RIDE** — Maj. Elizabeth Guild, acoustics expert, receives B-58 model from Convair engineer George Clifton after her ride in jet bomber. Her pilot on flight, Maj. Fitzhugh Fulton, looks on.

## Organization Realigned For '60 Fix-a-Toy

A new organizational plan to "utilize Fix-a-Toy manpower and funds most effectively" has been adopted by the Convair FW Management Club.

The new setup calls for eight permanent committee chairmen. In addition, the assistant chairman will succeed to chairman each year to insure a "continuity of effort."

M. J. Scott, Dept. 8, has been appointed general chairman for 1960. Jim Kincannon of Dept. 21 is assistant general chairman.

Guy Nesbitt of Dept. 25, founder of the Fix-a-Toy project, last year was named permanent co-ordinator of the program.

Other committees and chairmen are: publicity, Loyd L. Turner; adoption, Jim Budros; facilities, John Ringo; toy promotion, I. B. Hale; segregation and inspection, J. Y. McClure; methods and organization, W. E. Emish; traffic, Sam Keith.

Scott said the usual 20,000 to 25,000 manhours volunteered on the project by Convair employees each year should be "reduced substantially."

## Hicks Co-Chairman Of Fund Program

Marion Hicks, Convair FW assistant manager-contracts, has been named co-chairman of the United Fund's "loaned executives" program.

Loaned executives will direct and coordinate the United Fund activities of a selected number of larger business firms during the fall campaign, Hicks said.

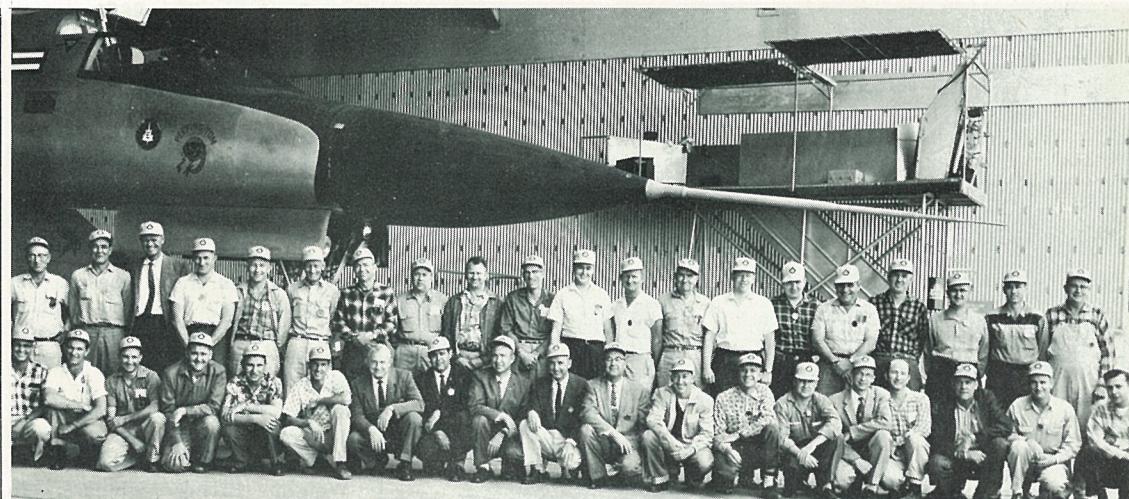
They will explain to top management the mechanics of United Fund participation and will also help select and train the employee campaign chairman, and coordinate speakers, films, supplies.

## Toastmasters at FW Elect H. R. Dvorak

H. R. Dvorak, Dept. 6-8, has been elected president of the Convair FW Toastmasters Club.

Other new officers, who will serve from April through September of 1960, are:

D. W. Ascherin, Dept. 28-5, educational vice president; J. R. Vaughan, Dept. 6-4, administrative vice president; Sid Bobbitt, Dept. 19-2, treasurer; W. W. Peterson, Dept. 10-2, sergeant at arms; and W. P. Engelfried Jr., Dept. 24-1, secretary.



**EXCELLENCE**—Crew members on B-58 Hustler No. 9 at Convair FW pose wearing "E" award caps presented them when they recently copped Maintenance Excellence Award.

## Speakers, Play Will Highlight NMA Gathering

A trio of outstanding speakers and a fast-moving one-act play will highlight the Convair FW Management Club's all-day NMA management conference May 21 at Ridglea Country Club.

Entitled "1960—Decade of Decision," the conference will open with a get-acquainted session from 8 to 9 a.m.

Max B. Skousen, management training specialist from Glendale, Calif., will speak on "Motivation Control in 1960" at 9:15 a.m.

The one-act play, "Delegation Be Hanged," will be staged at 11:15 a.m. E. Stan Brown, commissioner of Convair's Wing and Masque, will direct the NMA-sponsored play.

Luncheon address will be by Barry Holton, director of community services at SMU. His topic: "Are Your Attitudes Up-to-Date?" Holton played and later coached football at Notre Dame during the Knute Rockne regime.

At 1:20 p.m. Dr. Herb True presents "A Time for Daring." Dr. True, research psychologist

known widely as "Mr. Creativity," is remembered by many for his outstanding presentation at last year's conference here.

Climaxing the affair will be a social hour at 3:30 p.m.

Visitors from 16 different

Management Clubs in Texas and Oklahoma have been invited to the conference, club president C. C. Utley has announced.

During the "breaks," all conference delegates are invited to visit the "Midway" in the Ridglea Country Club lobby. It will be comprised of booths representing each Management Club activity.

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Convair Division of  
General Dynamics Corporation.

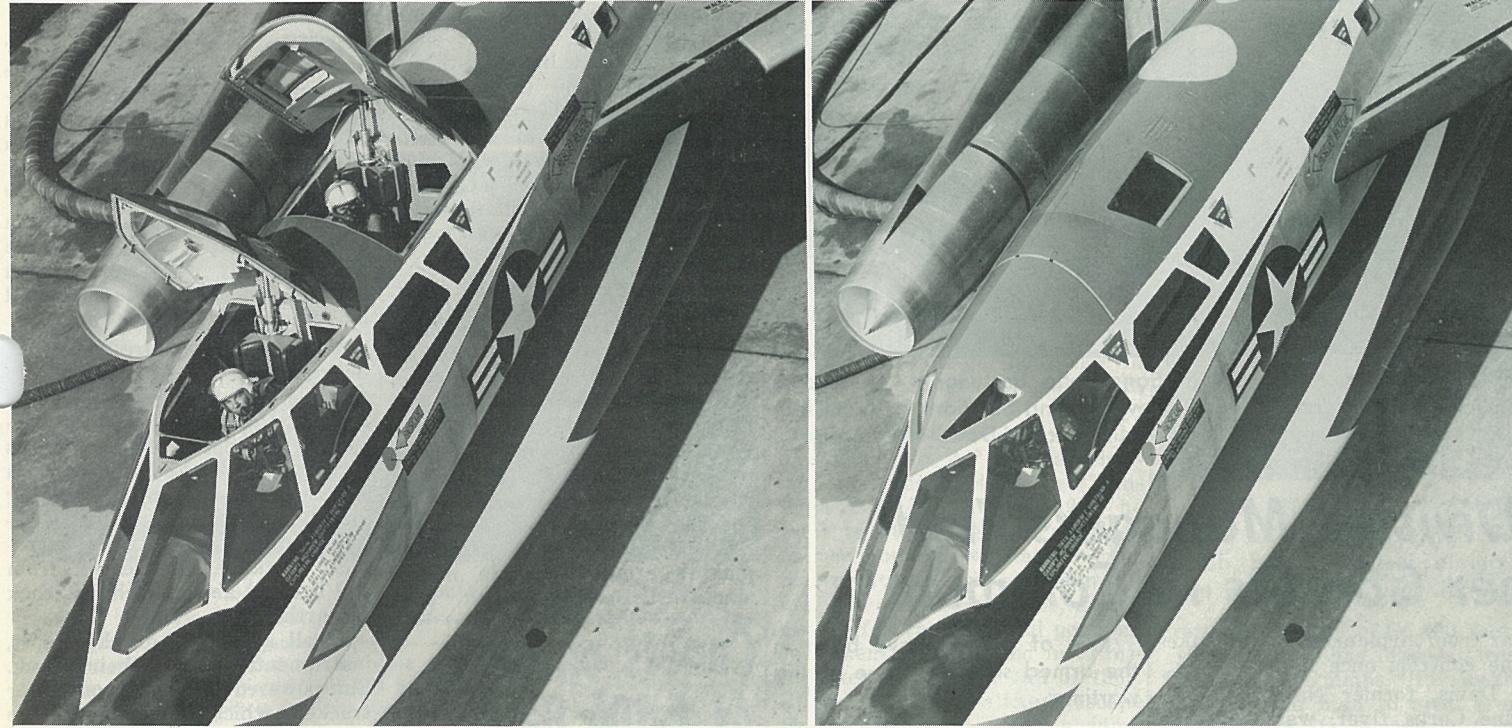
# Convairity

Vol. 13, No. 15

Wednesday, July 20, 1960

SAN DIEGO, POMONA, ANTELOPE VALLEY, VANDENBERG AFB, CALIF.

AFMTC, CAPE CANAVERAL, FLA., FORT WORTH, TEX.



CHECKING OUT—Pilots Val Prahl, first station, and Maj. Joe B. Thomson, chief of AF acceptance, second station, check out TB-58

No. 1 before one of last pre-delivery flights. Note moved-over seat in second station and "vista vision" windows.

## First Centaur Nose Readied For Shipment

First of a "limited number" of Centaur nose cones (fairings) to be manufactured at Convair Fort Worth is being readied for delivery to Astronautics in early August.

(Centaur is an Atlas second stage capable of putting a four-and-a-half ton payload in orbit around the earth, or sending a half-ton payload to Mars. National Aeronautic and Space Administration plans a 1961 launch.)

"This first nose cone will be used in ground jettison tests at Point Loma, an Astro test facility," according to W. A. Bratton, assistant project engineer.

(Components for Centaur have been taking shape in Astro production areas at SD.)

"Delivery of the second nose cone is set for later this year," Bratton said. "Other deliveries will be made as required by NASA to complete its test program."

Bratton said the nearly two-story high nose cone structure is made of all-fiber glass honeycomb sandwich panel—and is believed to be the largest high-temperature structure of this size made to date.

"The Centaur nose cone will be able to withstand a high rate of aerodynamic heating, protecting the payload on its flight through space," Bratton said.

Dept. 35 at FW fabricated the structure, while Dept. 41 was responsible for assembling it and installing pneumatic, ballistic, and electrical assemblies.

## Frank Pace to Address FW's Management Club; Casa Tickets Go on Sale

Top brass and top flight entertainment will combine to make August a double-barreled meeting month for Convair FW Management Club.

Frank Pace Jr., chairman of the board of General Dynamics Corporation, will make a special trip to Fort Worth Aug. 4 to speak to the 2,000 plus club members at Ridglea Country Club.

The entire house at Casa Manana has been reserved for Management Club Aug. 14 for a private performance of the current musical, "Li'l Abner," starring Willi Burke and John Craig.

Pace, who is coming to Fort Worth at the express invitation of Frank W. Davis, Convair vice president and FW manager, has a message that will be of interest to all members of Convair management.

Joining him on the program will be Club President C. C. Utley who will present lifetime club memberships to several retired members.

Entertainment will be furnished by the Joan Frank Dancers who will do South American and Parisian acts. A musical trio, "Biff Murphy and Plaids," will back them up and also furnish music during the social hour which begins at 5:15 p.m.

Tickets, \$3 apiece, are on sale at regular stations until noon Aug. 3.

A limited number of special-price \$1.50 Casa Manana tickets — Casa can accommodate only

1,832 — will go on sale at regular stations Aug. 3 at noon. Prior to that time they will be sold only at five special stations.

Del Tallon, Management Club program chairman, advises early purchase of tickets at this bargain rate as they will not be

available at the door. (Normal price of 1,100 of the seats is \$3.)

Management Club members and their immediate families will be admitted on the tickets, but there are no reserved seats.

Curtain time for the uproarious comedy is 4 p.m., with a mid-way intermission during which refreshments will be served. The musical, featuring Al Capp's famous comic strip character's come-to-life, promises to be one of the most outstanding in the 1960 Casa season. High points in the production are such hit songs as "Jubilation T. Corn-Pone" and "Namely You."

Early purchasers of tickets on the first-come, first-serve basis may buy at the following special stations:

Offices of T. E. Hoffman, Col. 74-C (factory management offices); C. C. Flagg, Col. 147-C on mezz. 15; E. R. Weiher, Col. 89 in the administration building; C. C. Utley, Col. 80 in the administration building; and O. R. Tilbury, Col. 94-L in the northwest end of second floor administration building.

## FW Fix-a-Toy Planning Begun, High Goal Set

It's Christmas in July for Convair FW Fix-a-Toy committee chairmen, who are getting started with plans for repair and distribution of an estimated 6,000 Christmas toys to children of needy Fort Worth families.

M. J. Scott, general chairman for 1960, heads a permanent committee reorganized to provide improved continuity year-after-year and more efficient operation during "repair season."

Although most committee chairmen are permanent, the general chairman will be selected each year, with plans calling for him to move up to chairmanship the following year. This year's assistant is Jim Kincannon.

Scott reports the 1960 schedule calls for providing toys for an estimated 1,600 children.

September will mark the beginning of repair work at Will Rogers Coliseum Sheep Barn, when Convair employees volunteer their time to put donated toys in working order.

Funds for the project come from Convair Management Club, which has budgeted \$1,500 for Fix-a-Toy.

Permanent committee chairmen include L. L. Turner, publicity; M. A. Stewart, adoption; I. B. Hale, toy promotion; J. Y. McClure, inspection and segregation; J. F. Ringo, facilities; J. E. Harwell, repair; S. E. Keith, traffic; and W. E. Emish, methods and organization.

Guy Nesbitt, founder of the Fix-a-Toy project, has been named permanent coordinator.



VISITOR—Frank Pace Jr. will have message for members of Management Club at Aug. 4 meeting.

## Fort Worth and Daingerfield

EDITION

Fort Worth news office:  
ext. 2961; Daingerfield news  
office: ext. 424

## Shakdowns Check Major TB-58 Changes

Projected delivery date for the Air Force's first TB-58 looms ahead as project engineers give a last-of-July or first-week-in-August delivery prediction.

At deadline time, Convair FW had one remaining shakedown flight to perform, followed by at least one flight by the Air Force acceptance crew. Eventual delivery will be to Carswell AFB.

In the meantime TB-58 No. 2 had entered development department to begin conversion to trainer configuration. It's due to go to the Air Force about the last of October.

TB-58 No. 3 (Hustler No. 14) remains in the Convair test force, scheduled to complete its test program before being returned for conversion.

Test Pilot Val Prahl, who has piloted TB-58 No. 1 on most of its Convair demonstration flights, reports that all major changes in the airplane have been successfully checked out. Three different pilots have performed take-offs and landings from the second station—Prahl, Fred Voorhees of Dept. 12, and Maj. Joe B. Thomson, chief of Air Force flight operations and acceptance division.

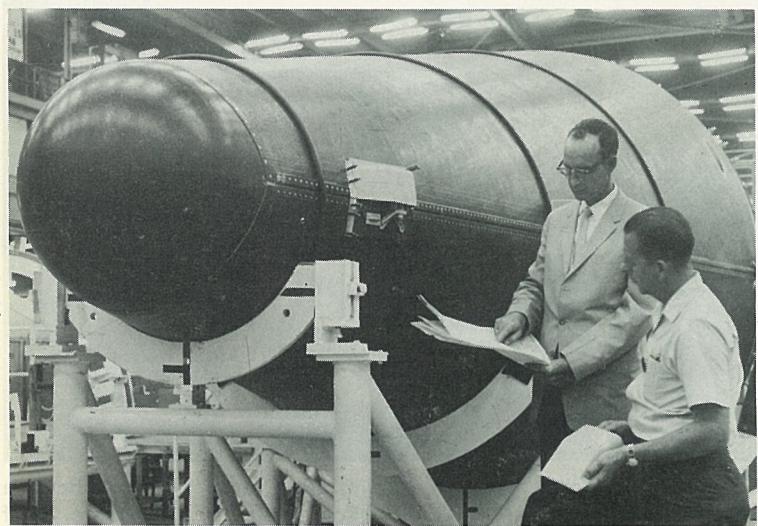
Dual controls in first and second stations comprise the major change in configuration. This is what will make the TB-58 invaluable not only in training new pilots, but also in checking out instructor pilots who will assume training chores for the Air Force.

To make dual controls effective, particularly on takeoff and landing, "vista-vision" windows have been added at the sides of second station and in its canopy. And second station seat, in which the instructor pilot will normally ride, has been moved slightly to the right, giving him ability to "look over the shoulder" of his student as he flies.

## Move Will Improve Support Capability

In a step "to improve our support equipment capabilities," Frank W. Davis, vice president and FW manager this week announced centralization of all manufacturing, modification and repair functions on support equipment.

Dept. 93 (test equipment repair) and Dept. 70 (ground support equipment assembly) will now report to M. E. Caraway, assistant chief engineer, who reports to Chief Manufacturing Engineer R. A. Fuhrer. This brings all phases of support equipment production and maintenance into one integrated operation.



CENTAUR—Inspecting Convair FW-made Centaur nose cone, slated for August delivery, are W. A. Bratton, left, assistant project engineer, and C. F. Fitzjarrald, Dept. 41.



FUTURE SANTAS—Members of Convair FW's permanent Fix-a-Toy committee lay groundwork for this year's project, set to begin in September.



**OVERLOOKING SD**—Convair division managers, who met at San Diego this month, are shown with August C. Esenwein, executive vice president, atop Bldg. 19, overlooking SD Plant 1. From left, Charles F. Horne of Pomona, J. R. Dempsey of Astronautics, Esenwein, Frank W. Davis of Fort Worth, J. E. Arnold of Daingerfield, Robert C. Loomis of San Diego.

## All Engineers, Division Managers Find They Have Other Careers in Common

When Convair operating division managers and the Convair executive vice president started comparing personal career notes recently during a monthly meeting they found a lot in common. Among the parallels:

**All were educated in some line of engineering.**

August C. Esenwein, executive vice president, Yale, 1927, BS in electrical engineering and BS in industrial engineering.

James E. Arnold (Daingerfield manager), Michigan State, 1933, BS in industrial metallurgy, 1934, MS in mechanical engineering.

Frank W. Davis (Fort Worth manager), California Institute of Technology, 1936, BS in mechanical engineering.

J. R. Dempsey (Astronautics manager), U. S. Military Academy, 1942, BS, University of Michigan, 1947, MS, aeronautical engineering.

Charles F. Horne (Pomona manager), U. S. Naval Academy, 1926, BS, Harvard, 1935, MS in communications and electronics.

Robert C. Loomis, University of California, 1935, BS in mechanical engineering.

**Five of the six have been pilots and several still keep active licenses.**

Esenwein, by far the senior flyer, holds license No. 4399, dated Nov. 3, 1928, the year after he was graduated from college. As head of a company he formed in Buffalo, N. Y., which he equipped with such planes as Waco 9 and 10, an Eaglerock and an early Stinson, he flew passengers over Niagara Falls (at \$25 a 25-minute trip), crop-dusted, barn stormed and flew stunt men. He knew and worked on airplanes for famous aviators of the time, Lindbergh, Amelia Earhart, Eddie Stinson, Doolittle. Since then he has rarely been

far from airplanes. He still takes the controls once in a while.

Davis, former Navy and Marine Corps flyer, was test pilot for Vultee at Downey, Calif., beginning in 1940 and gained considerable reputation during the war years. It has been said that no experimental airplane personally tested and flown by Davis ever had an accident. His "trade mark" was a four-leaf clover in a Convair badge frame which he placed in each airplane at delivery. He was first to fly a turboprop airplane (the experimental fighter XP-81, which he helped design). He made most of the ship's 47 flights. At that time (1945-46) it was the world's most powerful fighter, capable of 500 mph.

Dempsey won his wings in the Air Corps (1942) and held a senior pilot rating, flying wartime fighters and also holding multi-engine ratings. Interested in flying from boyhood, Dempsey once built a model rocket plane fashioned of aluminum tube and powered by gun powder. First flight was a success but the plane blew up on the second.

While serving as acting director of the Federal Airways' Division, Horne earned his civilian pilot's license (at his own expense) in 1950. He at one time held a commercial license but currently carries a private license. He still takes up a plane occasionally.

Loomis received his wings in the Navy shortly after he was graduated from college and for the next 15 years, in and out of the service, he was rarely far from flying. During eight years with TWA he flew as an engineering pilot while directing engine and maintenance overhaul for the airline. He continued flying after joining Convair at San Diego, was co-pilot on the first flight of the XP5Y-1 and flew many missions in the Convair Turboliner. He was co-pilot on the delivery flight of the XC-99.

**Five of the six have been in the armed services, three during wartime.**

Esenwein joined the Air Corps early in 1942 and was assigned to Albuquerque's "Depot Training Station" where groups were trained to be sent overseas as a unit for air field operation. He was in charge of all technical training for the engine and aircraft maintenance personnel. When he left the service in 1946 he was a lieutenant colonel, chief of maintenance at San Bernardino, Calif., Air Depot. Esenwein's wartime flying was brief but harrowing. At Albuquerque there was an aging Ryan monoplane for static training, not for flying. However, Esenwein flew it. Vastly underpowered, particularly in that high altitude, it took 6,000 ft. of runway to get into the air and 30 miles to climb to 200 ft.!

Dempsey's war career was in the European theater where he was flight leader of a P-38 reconnaissance squadron. He flew 43 missions and was the first to photograph at low level the Siegfried line. His decorations include the Distinguished Flying Cross. Postwar service years were spent in the AF's Guided Missile School, in the Pentagon, ultimately as chief of guided missile projects. When he left the service in 1953 to join Convair he was operations officer of the missile test range at Cape Canaveral.

Horne, a career Navy officer and a pioneer in application of electronic concepts in the U. S. Navy, during World War II was communications and radar officer, Battleships, Pacific Fleet; communications officer, South Pacific Area; communications and radar officer, Amphibious Forces Pacific. His decorations include Legion of Merit with star and Combat V. He retired in 1951 as a rear admiral.

## High-Flying Balloons Probe Secrets of Sun

A small group of Convair scientists is patiently waiting for the sun to "explode."

When it does, Dr. J. I. Vette and a task force from Convair's Scientific Research Laboratory at Astronautics will hastily gather up some unusual equipment and travel to Yuma, Ariz. A short time later they will send a tissue-thin polyethylene balloon aloft with a payload of instruments.

**Rising rapidly to the edge of space, the balloon will send back information and measurements of gamma radiation associated with the solar phenomena.**

"There is nothing unusual about solar 'explosions,'" Dr. Vette explained. "They occur frequently.

"One kind we call a 'solar flare.' This is a great mass of flaming solar gasses which suddenly becomes intensely illuminated. In many instances, radio noise storms and the ejection of matter into space accompanies the flares."

Dr. Vette's group has been making studies of this nature since last December as a "pure

science" project. Early flights were made from Camp Pendleton. Since April, operations have been shifted to the Army Test Center at Yuma, to prevent summer high altitude winds from carrying the equipment into the ocean.

Balloons used are either 86 or 128 feet in diameter and are filled with helium. The tear-shaped bags carry aloft payloads weighing 100 pounds, of which 80 pounds are instrumentation.

(Balloons are used instead of satellites for this study because they are cheaper. Rockets, while not so costly as satellites, can be used, but their value is limited by their short flight duration.)

The balloons require about two hours to rise to their working altitude of 100,000 to 130,000 feet, but must climb at least 44,000 feet in the first 100 minutes to comply with Federal Aviation Administration rulings regarding airway obstruction. If this requirement is not met, the instrument package is released from the balloon and parachutes back to earth.

If all goes well on the flight, instruments begin their work. Sun-powered cells drive a "solar tracker" which points toward the sun at all times. A "sodium iodide scintillation detector" then seeks out gamma radiation. Minute radiation particles are detected, amplified and information fed into a telemetering device. This, in turn, sends information to recording instruments manned by the ground crew.

A second transmitter relays information on temperatures and balloon altitude, and reports on the solar tracker's accuracy.

Both transmitters aid scientists in tracking the balloon's flight, as it often soars well beyond visual range.

At the end of the flight, the instrument package is separated from the balloon and parachutes to earth. As it descends, an aircraft sights the falling package and follows it to aid recovery.

Recorded data is carefully analyzed after each flight.

"While we are conducting the project as a purely scientific effort, some of our findings may prove important to future manned space flight," Dr. Vette indicated.

Two of three flights conducted to date have been successful, and early problems have been ironed out, making prospects for the project promising, he reports.

C. C. (Bud) Love, Dept. 593, pilots the observing aircraft, a Cessna 172 from Montgomery Field, which follows the balloon at about 10,000 feet. Dr. W. C. Erickson, staff scientist, flies as observer, assisted by technician Paul Bressenden.

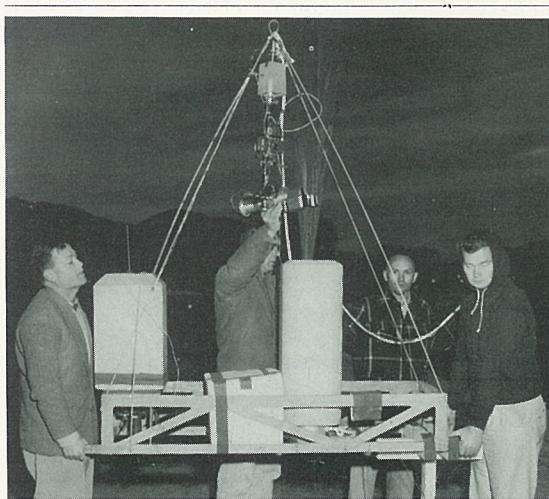
Assisting Dr. Vette at the launch site are Fred Casal, staff scientist, and technicians Rod Jerde and Orley Neller. Jack Warren is official "launcher" and weatherman. John Hubbard, electronics engineer, and technician Wayne White also take part frequently, as do others from the Scientific Research Laboratory who are "drafted" as needed.

### Mrs. Veva Harrison Promoted to Major

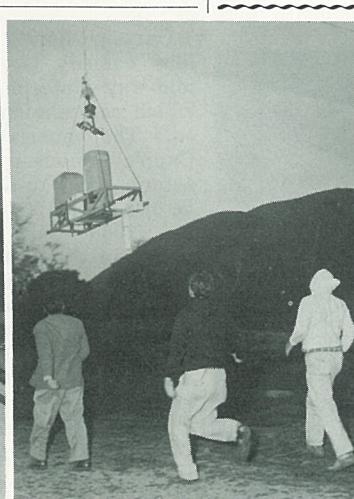
Mrs. Veva Harrison of Astronautics' Dept. 531-3 was recently promoted to the rank of major in the Civil Air Patrol, the only woman to hold the rank in the San Diego area.

As senior personnel officer of the CAP Group III Headquarters, Veva is one of only six majors in the local group.

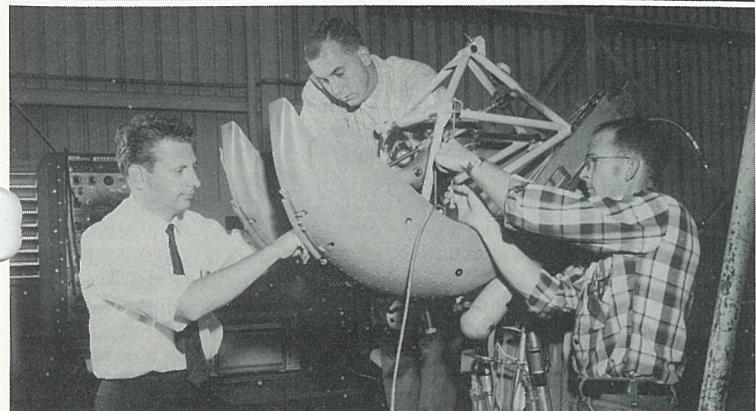
She holds the rating of aeronautical observer, earned in 1951.



**BALLOONISTS**—At left, waiting for lift-off of instrument package, are Fred Casal, staff scientist, Drs. Dave Jameson and Frank Petty of San Diego State College, and technician Wayne White. Doctors were present because this flight carried package of insects to test effects of altitude on them. Left center, helium is fed into balloon as handlers release it bit by bit. When bag is filled umbilicus is



tied off. Right center, as balloon takes off ground crew races to clear package from obstructions. At right, Casal; Tom Kettner; Rod Jerde; Dr. Jim Vette, staff scientist; M/Sgt. Mooney of Camp Pendleton who assisted, surrounding ground receiving station. Convair scientists are making studies during solar "explosions" to gather data on gamma radiation.—Marine Corps photos.



**READY TO GO**—At top, C. S. Rosefeld, Convair SD Dept. 31 assistant supervisor in charge of construction of supersonic seat test sleds, consults with F. J. Signorelli, structures engineer (occupying dummy's seat in cockpit), before modified sled left last week for Edwards AFB test track. In lower shot (from left), Niels Anderson and Don Skiba of systems dynamics lab and Don Altendorf of Dept. 31 adjust seat test specimen now going through functional and environmental checkout at Convair SD.

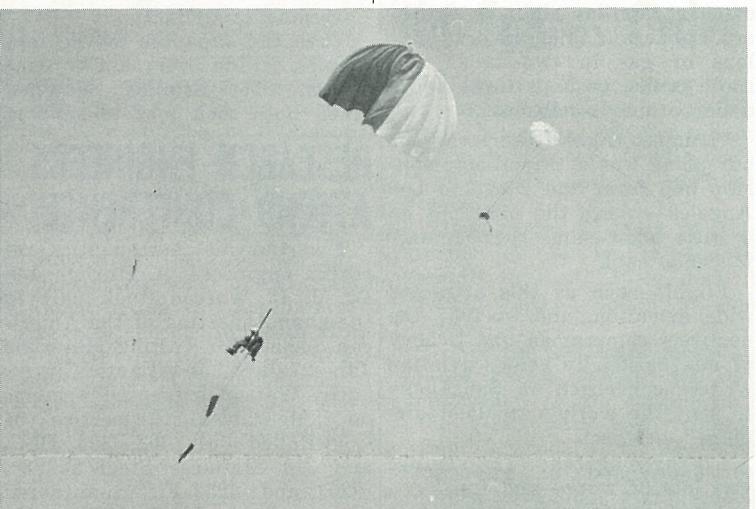
## Ejection Seat Tests Enter Final Stages

Drawing near the end of a four-year intensive program, testing of the Convair-designed ejection seat to go into jet interceptors is now in final stages.

Convair crews are now at Edwards AFB, Calif., and Holloman AFB, N. M., coordinating tests of the F-106B supersonic seat test sled and actual flight tests of the seat. Dummies only are ejected in sled tests on the 20,000-ft. Air Force track at Edwards. Both dummies, and later, AF men will be ejected from planes during checkouts at Holloman, said Hugo F. Mohrlock, Model 8 project engineer at Convair San Diego.

Designed by Convair SD engineers, the escape system, an entirely new concept, propels pilot and seat vertically from the plane's cockpit. In an emergency, pilot triggers ejection by pulling a D-shaped ring between his legs. Canopy is automatically unlatched and jettisoned. Pilot's feet are retracted, and seat pan is rotated to provide support under the thighs. Seat is raised by vertical charges, then rotated to horizontal position so that pilot is protected from wind blast forces as he is pushed out into high air pressures.

A rocket catapult blasts the seat from the plane after the firing of four breakaway bolts releases the seat from the aircraft. Booms are extended on either side of the seat back to stabilize it as it catapults into mid-air. When clear of the plane, anywhere from 100 to several hundred feet away depending upon speed at time of ejection, seat harness is released automatically and a drogue chute pulls the pilot from the seat. This operation sets off the timer to release a large parachute which wafts the pilot safely back to earth.



**EARTH BOUND**—Large parachute is triggered to take pilot safely back to solid ground.

"In the supine position, wind blast protection is virtually complete," said Mohrlock. "In a wind blast sled run, simulating Mach 2.5 flight at 30,000 feet, a helmet and oxygen mask remained in place on the dummy's head. A package of cigarettes in his open breast pocket stayed there through the entire sled run."

"We find that the seat-man combination is an aerodynamically stable body. In high altitude ejection, he rides the seat down to parachute deployment altitude. Excellent free fall stability of the seat has been demonstrated by a balloon drop from 86,000 feet at Holloman Air Force Base."

At Edwards, the test sled whizzes across the desert sand as fast as 870 miles an hour (sea level speed which approximates high supersonic speed at altitudes). When seat and dummy pilot are ejected forces as high as 30 Gs are exerted for perhaps a tenth of a second, explained B. E. Browne, test engineer in SD systems dynamics laboratories.

Browne is lead engineer of the dozen or so systems dynamics lab men who have directed tests during proving of seats designed for

## Expert Team Studies Suits, Ejection Seats

An Air Force team was at Convair San Diego last week evaluating equipment designed for use with Convair's supersonic ejection seat.

Capt. J. W. Kittinger, Capt. R. M. Chubb, and M/Sgt. G. A. Post, all attached to Aerospace Medical Division of Wright Air Development Division, Dayton, Ohio, were at the San Diego plant to integrate pressure suits and related personal equipment with the seat.

They all report to Col. Paul Stapp, chief of the Aerospace Medical Division, known as the "world's fastest man." Colonel Stapp has been widely publicized for his 632-mile-per-hour ride in a sled test run at Holloman AFB, N. M.

Captain Kittinger holds ratings of senior pilot, AF test parachutist, and balloon pilot. In "Man-High One Project" in 1957 he went to 96,000 feet in a sealed balloon gondola, at that time the record altitude for a human being. He and M/Sgt. Post, expert tester of parachutes and personal equipment, participated in "Project Excelsior" in the fall of 1959. During these high altitude escape studies, Kittinger made a jump

from an altitude of 76,400 feet.

M/Sgt. Post has made at least 250 parachute jumps. He was the first enlisted man to eject from the B-47 in its downward ejection seat several years ago.

Captain Chubb is a flight surgeon attached to the Aerospace Medical Division.

They expect to return the latter part of this month for further studies.

### Payroll For Astro Passes 20,000 Mark

Astronautics, "youngest" of Convair's operating divisions, has passed all others in total employment.

July 12 saw Astro's employment soar above the 20,000-person mark for the first time.

Latest count from other Convair sites showed 19,060 persons at San Diego; 17,921 at Fort Worth; 6,315 at Pomona; 454 at General Offices, and 259 at Daingerfield.



**OUT HE COMES**—Drogue chute pulls pilot from seat as harness is automatically released. Mechanism goes into action when ejection seat is safely clear of plane.

installation in both F-106As and F-106Bs.

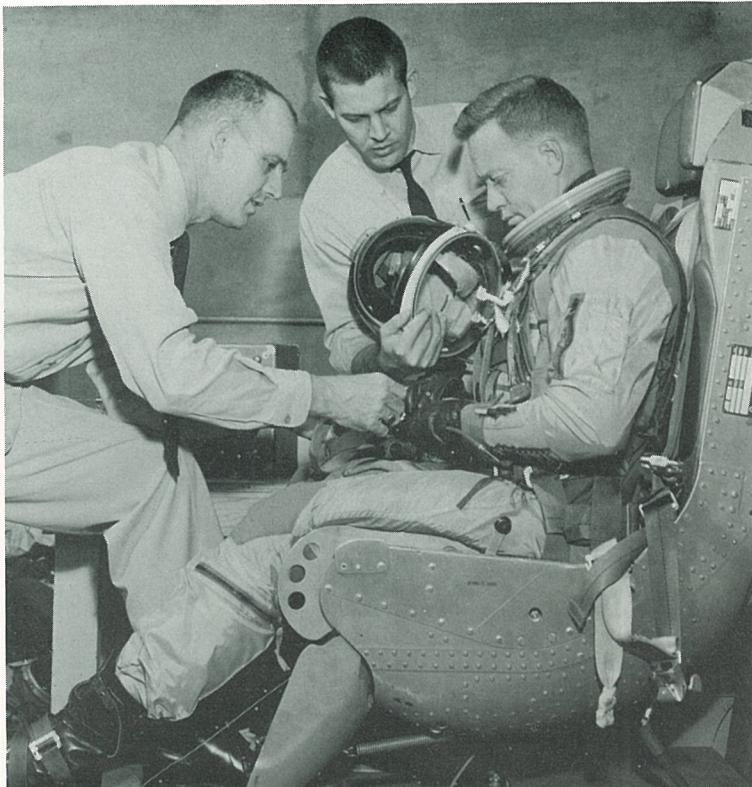
Others are checking closely results of flight tests now in progress at Holloman. Probably the man most responsible for sled runs is J. G. Kalogeris of SD systems dynamics laboratories who has been on the spot at Edwards during all of the test program. The group reports directly to George Vasick, utilities control supervisor in SD systems dynamics laboratories.

Coordinating the Holloman flights for Convair is R. G. McGahey of SD engineering flight test, assisted by G. H. Solheid.

All test sled specimens, in their gaudy red, white and black color scheme, have been built by C. S. Rosefeld's group in SD experimental department. In latest modification before current runs, his men installed an actual cockpit section on the test sled. The crash program saw the job finished in two weeks.

Engineers working closely with experimental during construction were James Barron of the project office, Tom Webster of furnishings and F. J. Signorelli, structures engineer.

The seats are built by Aircraft Mechanics, Inc., of Colorado.



**SNUG FIT**—Capt. J. W. Kittinger, encased in pressure suit, has fittings adjusted by M/Sgt. G. A. Post (at left) and Capt. R. M. Chubb, holding helmet, during evaluation at Convair SD of equipment designed for use with Convair supersonic ejection seat.

## Navigation Institute Hears Convair Paper On Launching Effects

Convair was represented by two delegates at the 16th annual Institute of Navigation held last month at U. S. Air Force Academy, Colorado Springs, Colo.

P. H. Selby, Convair SD flight training supervisor, and Dr. R. M. Leger, Astronautics chief of flight performance and analysis, were among the 250 industry and military delegates from all over the world.

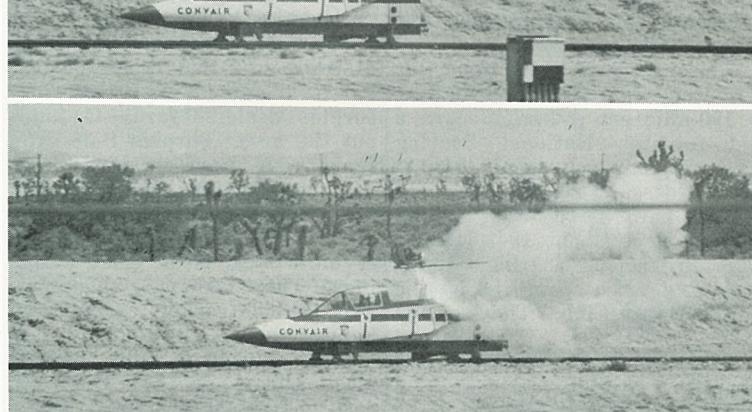
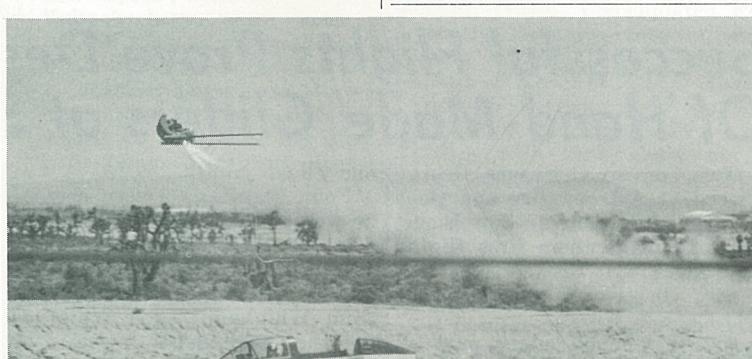
Leger gave a paper on "Effects of Launching Time on Space Navigation Problems" during the first day, devoted to space navigation. Surface and sub-surface navigation and jet airline transport navigation, including international air traffic control, were under discussion during the following days of the conference.

"Navigating the B-58" was topic of a paper given by Capt. William L. Polhemus, 3958th Combat Crew Training Squadron, Carswell AFB, Texas.

### New Chapter of IRE Elects Astro Men

Three Astronautics employees have been elected officers of the newly formed San Diego Professional Group Chapter on Space Electronics and Telemetry of the Institute of Radio Engineers.

Eric Herz, Dept. 591-5, is chairman; Bernard Lander, Dept. 270-3, vice chairman; and Charles Burgi, Dept. 565-2, secretary.



**GOING UP**—Ejection seat and pilot are blasted from plane by rocket catapult and rotated to horizontal position. Note booms in sequence photos.

## 1,500 Engineers Expected in San Diego For Annual AIEE Convention Aug. 9-12

General Dynamics Corporation will be prominently represented at a meeting of the American Institute of Electrical Engineers, Aug. 9-12 at El Cortez Hotel, San Diego.

J. R. Dempsey, Convair vice president and Astronautics manager, will address more than 1,500 engineers expected to attend.

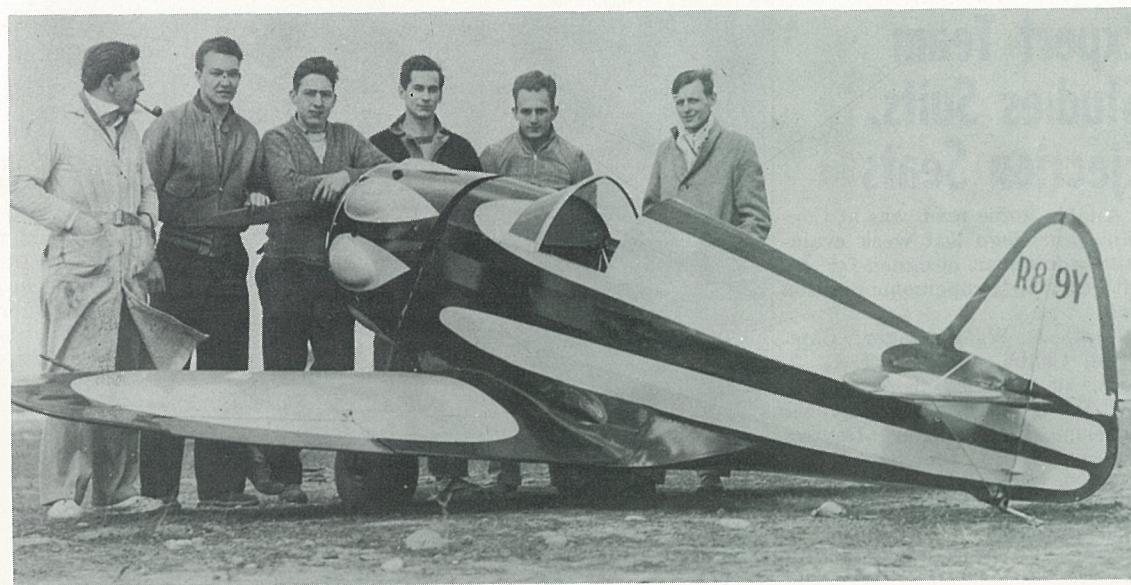
Tours to Convair-Astronautics, Stromberg-Carlson plant, John Jay Hopkins Laboratory of General Atomic, and to Astronautics'

Sycamore Canyon Test Facility are scheduled. Technical papers by engineers of several General Dynamics divisions will be presented.

Convair personnel assisting with convention arrangements include Glen Eggen, Astro Dept. 547, general committee chairman; Ernest F. Kotnik, Convair SD, technical committee chairman; J. R. Crooks Jr., Astro Dept. 551, sponsoring section, and H. R. Hughes, Astro Dept. 545, publicity chairman.

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The seats are built by Aircraft Mechanics, Inc., of Colorado.



**MIGHTY MITE**—"World's smallest airplane," designed, built by Convair men in 1935, weighed 408 pounds, was 3 feet, 10 inches high. Two of builders on this pre-flight photo are Convair FW's J. Y. McClure, third from right; second from right is Lionel Machado, Hawaiian Airlines vice president.

## Convair Men and Visitor, Recall Roles Helping Fly 'World's Smallest Plane'

Two Convair FW executives who had a hand in building the world's first supersonic bomber once helped put the "world's smallest airplane" together.

And there was lots of big talk about this mighty aeronautical mite recently when Convair's J. Y. McClure and C. C. Flagg, played host to Lionel Machado, vice president of Hawaiian Airlines.

Machado was at Convair FW evaluating the future of supersonic transports.

But back in 1935, just a year after graduating from Curtiss-Wright Technical Institute in Glendale, Calif., McClure and Machado went to work for Convair SD. There they met Flagg, an inspector and self-styled airplane race designer of some repute.

At the moment, Flagg had on the drawing boards a small, fast plane suitable to enter in the National Air Races at Cleveland.

They added two more Convair employees to the "payroll" and started working on their "dream boat" in a store building "somewhere on Washington Boulevard in Mission Hills area."

"We'd work at Consolidated all

day, then work on our plane evenings," McClure said. "Usually we'd all end up taking the last streetcar home around midnight."

Working right up to deadline, the Convair men put the last coat of paint on their sleek midget and rolled it out early one Saturday morning.

"At 6 a.m. the same morning, we had the plane hitched to a 9-passenger (all seats taken) Ford station wagon and we were off to the races in Cleveland," Machado recalled.

Flagg remembers "it cost us a cent-a-mile tonnage fee to cross New Mexico."

The diminutive 90-horsepower racer had 26.4 square feet of wing area—less than the size of an average door; it was 12 feet, 6 inches long; and had a 16-foot wing span. Total weight was not an ounce over 408 pounds; height, 3 feet, 10 inches.

"We were lucky," McClure mused, "that the average pilot in those days averaged only between 145-150 pounds."

The racer didn't win any medals at Cleveland. But once back at San Diego, the builders modified the wing span to only 12 feet, pushing the top speed to 235

mph. Not bad for an era when 135 mph was flying fast.

"Landing speed with flaps was 65 mph," Flagg said. "Due to power vs. weight ratio, takeoff distance area was very short, coupled with an extremely high rate of climb."

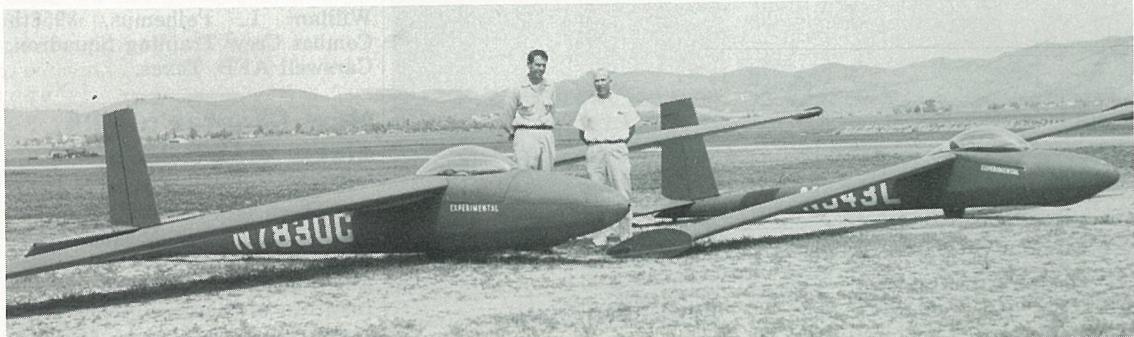
The modified version, which became a familiar sight in Southern California skies, held 16 gallons of gas in two tanks and could cruise perhaps three hours under proper conditions.

"Longest flight I can recall for our plane was a three-hour, non-stop hop from San Diego to Los Angeles—where the pilot put on a little show—and back again," Machado said.

Flights such as this attracted wide attention, and in 1937 top newsreel cameramen and a bevy of internationally known aviation writers converged on San Diego to see "the world's smallest airplane" perform.

All three agreed: "The venture was lots of work—and fun."

After reminiscing over their 235-mph, "vest-pocket" masterpiece, the long-time friends had a flight-line look at the Mach 2 Hustler.



**GROUND UP**—George Tweed of Astronautics and Gene Whigham, Convair SD, display sailplanes they designed and built themselves. Except for wheels and instruments, gliders were assembled from surplus materials from company salvage yards. Construction took four years.

## Successful Flights Prove Design Of 'Hand-Made' Gliders at San Diego

Two Convair engineers, George Tweed of Astronautics and Gene Whigham of Convair San Diego, recently made their first flights in gliders that are truly "hand-made" in every sense of the word.

"We fashioned every part on these gliders by hand with the exception of instruments and wheels," Tweed said.

Evidently they did a good job. Tweed recently flew his ship over a 190-mile set course to earn a bid for the National Soaring Championship scheduled Aug. 2-11 at Odessa, Tex.

The pair have been flying gliders since about 1948, taking part in various soaring events, including those sponsored by the CRA Glider Club. They owned

one glider jointly.

Four years ago Tweed decided he would like to incorporate some original ideas in a glider. He set about building his ship in his garage with an occasional assist from Whigham. Then Whigham got the fever and a few months later his garage became a second "production line."

The men "shopped" regularly at Astro and San Diego salvage yards and made excursions to surplus dealers' yards throughout the area. Surplus P-38 drop tanks were used as portions of the nose sections. Most of the afterbodies of their ships contain aluminum bulkheads and stringer units with fiber glass coverings. They fashioned the plexiglass bubble cockpit canopies by hand.

"The ships look alike, just as most gliders do, but they are each individual designs," Whigham pointed out.

Tweed's glider is the largest. It has a tapered wing of 48-foot span and weighs some 490 pounds

empty. Whigham's constant chord wing is 40 feet across, his ship weighs about 350 pounds empty.

Both gliders have been certified as "experimental" and Tweed's is now licensed for cross-country flights.

Tweed's bid to the National came on the strength of a flight he made June 11, taking off from and returning to El Mirage Airport near Palmdale. His tow plane carried him to 4,200 feet and he climbed as high as 16,000 feet in making the round-trip run of 190 miles to Twentynine Palms.

Tweed earned the Soaring Society of America's Golden "C" award for his feat. He is one of about 90 glider pilots in the United States to gain this recognition. He also earned the first "diamond" of three which can be added to this award. A select field of only 16 U. S. pilots have earned all three "diamonds," each given for top accomplishments in soaring.

### War Career

## Youngster Who Spied For Allies In Philippines Now With Astro

Newsboy, spy and friend of American prisoners of war, all before his 15th birthday!

That's the story of Anthony L. "Tony" Estalio, now of Convair Astronautics' Samos project at Vandenberg AFB.

Born in Santa Maria, Calif., the son of Philippine immigrants, Estalio was 10 when his parents took him to Manila for a visit in 1938. Two years later his father, a successful farm labor contractor, returned to the United States. Estalio and his mother extended their visit and soon it was too late to escape as World War II swept across the Pacific.

The Estalios promptly decided to hide their American citizenship. It worked too, although both had to be careful to speak English with a pronounced accent.

At first, Japanese planes over Manila were thrilling sights to Estalio and his playmates.

"We would stand out in the street and watch them fly over, open their bomb bays and drop their bombs," Estalio said. "Then we saw the death and destruction they brought and quickly learned to hide at the first sounds."

Estalio recalls standing on hilltops and witnessing battles on Corregidor and Bataan.

Then the Japanese moved into Manila, jailing every known American. The Estalios remained free. Both took jobs to support

themselves. Tony became a newsboy, selling the Manila Chronicle. Always careful to speak a mutilated version of English, he struck up an acquaintanceship with a Japanese officer who had attended college in California.

"He frequently took me along with him and before long I was allowed to come and go selling papers in the Japanese military installations without questions."

Before long he became friendly with a former newspaper reporter and member of the underground to whom he passed information about Japanese activities. His information was relayed by radio from the nearby hills to submarines offshore and eventually to Allied headquarters.

"The reporter and I had a signal worked out. If the coast was clear I folded a paper and held it by my chest. If not, I would swing a paper like a lantern."

Young Tony continued his paper-selling and intelligence activities for the duration of the war. Eventually he and his mother returned to the States and Tony went back to school. His education again was interrupted by warfare when the Army called him to duty in Korea. After discharging this responsibility he returned to school and was graduated from California Polytechnic College at San Luis Obispo.

Estalio has been with Convair for two years in an engineering post. His hobby is designing parade floats, using flower decorations, and has won a number of trophies for his creations.

### RESEARCH ENGINEERS ATTEND CONFERENCE

Two Convair Astronautics research engineers, A. Hurlich and Dr. J. F. Watson, took part in the annual meeting of the American Society for Testing Materials June 27-July 1 in Atlantic City.

Dr. Watson presented a paper on "Mechanical Properties of Cold-Rolled 301, 302, 304 ELC, and 310 Stainless Steel at 78°, -320°, and -423° F." co-authored by Astro's J. L. Christain. He also served as program chairman.

Hurlich presented a summary of the symposium, including 12 papers from various aircraft and missile manufacturers, metals producers, research institution.

### On Her 16th Birthday, Convair Girl Solos

Federal regulations require a minimum age of 16 years to issue a student pilot's license.

An Astronautics daughter, Sandra Pattillo, late last month completed requirements for her student's license, on her 16th birthday, June 26!

The young daughter of R. O. Pattillo of Dept. 212-2 has been interested in flying for years. A family council, with Sandra pleading, agreed on the pre-16 lessons.

Sandra enrolled in a Gillespie Field flying school and passed all the tests prior to solo. On her 16th birthday she took the training plane up alone, for the first time.



**FAMILIAR FIGURE** — Anthony "Tony" Estalio, left, is well-known among Astro's Vandenberg AFB force, although few know of his wartime service in Philippines. He is shown with Dick Vertigan near Atlas launch tower.



"I wish you fellows would get your eating over with . . . It's almost lunchtime."

**Is It News?**  
Call Convairity

## NEWS FROM OTHER DYNAMICS DIVISIONS

General Dynamics Corporation, created in April, 1952, as successor to Electric Boat Company, is composed of seven divisions and a Canadian subsidiary, Canadair Limited, of Montreal, airframe builders. The divisions are:

Convair, head offices at San Diego, Calif., aircraft, missiles, and space systems.

Electric Boat of Groton, Conn., submarines.

Stromberg-Carlson, of Rochester, N. Y., telecommunications, electronic equipment.

Liquid Carbonic of Chicago, Ill., carbon dioxide producer, industrial and medical gases.

General Atomic of San Diego, Calif., nuclear research, development, production.

Electro Dynamic of Bayonne, N. J., electric motors, generators.

Material Service Division, Chicago, Ill., building materials, concrete products and coal.

\* \* \*

## General Atomic to Design, Build Special Reactor For U. S. Army

WASHINGTON, D. C.—A new atomic reactor capable of providing short pulses of intense nuclear energy for the study of radiation effects on electronic equipment will be provided by General Dynamics Corporation



**NEW STYLE**—Stromberg-Carlson will merchandise new extension telephone with illuminated dial that glows softly when headset is in place, lights up brightly when lifted.

for the Army's Washington, D. C., Diamond Ordnance Fuze Laboratories.

Dr. Frederic de Hoffmann, senior vice president of General Dynamics and president of its General Atomic Division, made the announcement.

The newly-developed reactor, a special adaption of TRIGA reactors, called TRIGA Mark-F, will be located in Walter Reed Army Medical Center, Forest Glen, Md. Its primary purposes will be the study of effects of radiation on various types of electronic components and circuitry used in Army ordnance equipment, including tests of equipment while in actual operation.

General Atomic will be prime contractor for the design and construction of the reactor and associated facilities at an approximate cost of \$1 million. Construction will begin late this year in conjunction with Holmes and Narver, Inc., of Los Angeles, the architect/engineer and construction subcontractor. The reactor facility is scheduled for completion in the latter part of 1961.

## Canadair Ships First Components In Subcontract to Lockheed

MONTREAL — First set of components which Canadair Limited, of Montreal, is building for F-104G interceptors destined for West German Air Force was shipped recently from Montreal to Lockheed Aircraft Corp., at Burbank, Calif., where the planes are to be assembled.

Lockheed's subcontract to Canadair calls for 80 sets of wings, ailerons and empennages. Completion is due by 1962, at a total value of more than \$4 million.

At the same time, Canadair is building airframes for 200 CF-104s, similar to the F-104Gs, for No. 1 air division of the Royal

Canadian Air Force which is serving with NATO in Europe. The first of these Canadian aircraft is to be delivered early next year.

The F-104, which is in squadron service with the U. S. Air Force and from which both the Canadian and German versions have been derived, holds the world's altitude record at more than 103,000 feet, and in speed has registered more than 1,400 miles an hour.

### Stromberg-Carlson Gets Radio Order

ROCHESTER — Stromberg-Carlson has received a \$1,131,299 contract from the U. S. Army Signal Research and Development Laboratory at Fort Monmouth, N. J., for two engineering test models of single sideband tactical transistorized radio sets.

### Mfg. Leaders Attend Inter-division Meet

Astronautics recently (July 7-8) hosted the first annual inter-division manufacturing development meeting for six divisions and one foreign subsidiary of General Dynamics Corporation.

The affair drew 35 manufacturing leaders from General Dynamics.

August C. Esenwein, Convair's executive vice president, presented the keynote address at the two-day affair. J. R. Dempsey, Convair vice president and Astronautics manager, extended a welcome.

### Electronic Printer Ordered For Navy

SAN DIEGO—An S-C 3060 medium speed electronic printer has been delivered to U. S. Navy Postgraduate School at Monterey, Calif.

The printer will be used by Project NANWEP, a Naval Weather Service Research Unit using high speed digital computers in the development of new naval meteorological techniques.

## Value Control Men Confer at Pomona Parley

Five Convair Fort Worth people who will be project leaders in future seminars at Fort Worth are attending a value control conference at Convair Pomona.

T. A. Scott, material; M. E. Aldrich, engineering; B. W. Kahla, industrial engineering; and Bill McMurry and J. D. Aney of educational services are attending the seminar which started July 11 and runs through July 22.

Upon returning, the five will assist E. D. Heller and Ben Schroeder of Convair Pomona in conducting the kick-off seminar here in August for key Convair FW personnel.

About 17 departmental coordinators and a few other key personnel will attend the initial sessions, according to W. E. Emish, industrial engineering manager and Convair FW value control coordinator.

"Seminars of this nature will be repeated for some time in the future at FW," Emish said.

## BIGGEST Radome Covers Molded In Spares Order

Largest radome covers ever to be molded at Convair San Diego will be going on Convair-built T-29s now in service with the Air Force as navigational bombardier trainers.

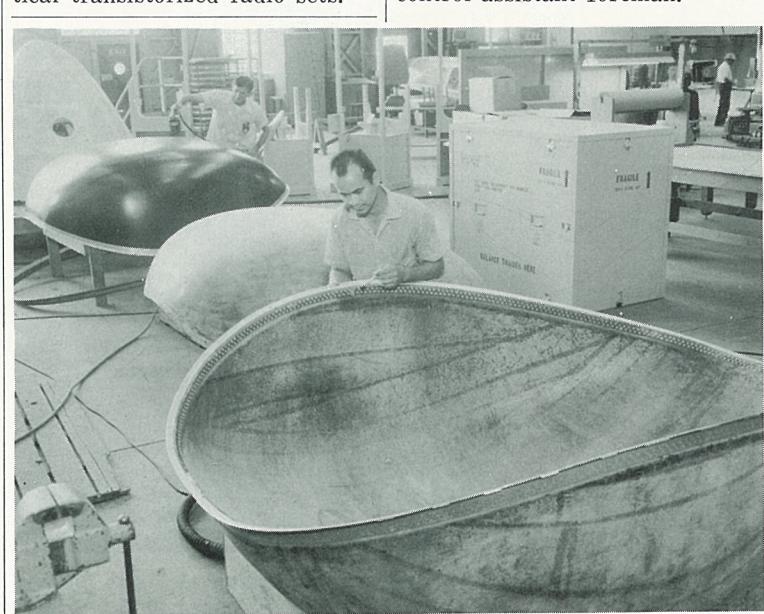
Last of the 22 black "bubbles" were due to be shipped this month to Kelly Field, San Antonio, Texas, under a spares order.

Over the last eight months the large covers, which will house electronic radar equipment on the T-29s, have been molded in Dept. 31 model shop. The bonded structure is honeycomb reinforced with fiber glass, said Joe Turner, assistant supervisor. The mold used was originally built by Convair and returned for this particular job.

After molding they go to experimental assembly area where they are completed with rims and protective coating. They get 16 coats of the same type that goes onto F-106 nose cones, explained W. E. Porter, assistant foreman. On top of four primer coats go 12 layers of rain erosion coating as an abrasive protective covering. After the last coat, the cover must stand for 72 hours without touching. Paint turns from brown to the shiny black color seen on interceptor nose cones.

The large covers measure 7 by 8 feet across and stand 4 feet high. Their size presented problems when workmen found they couldn't reach across them and had to erect platforms for the lengthy stretch.

Directing their progress through assembly operations was Bryce Bludworth, manufacturing control assistant foreman.



**BUBBLE BUILDING**—Joe Flores, Convair SD assembler (in foreground), attaches rim and John Katich, Dept. 31 paint shop, goes through motions of spraying final protective coating on T-29 radome covers made at SD.

## First Powered Assembly Line Tried Out by Vultee at Downey

(This is installment No. 39 in Convairity's continuing history of Convair.)

Stinson Aircraft was building L-1 liaison planes for the Air Corps in a new plant put up by



**HEAD MAN**—Tom Girdler was head of Consolidated Vultee's board of directors during early years.

its parent company, Aviation Manufacturing Corp., at Nashville, Tenn., in late 1940 when Vultee Aircraft acquired control.

The new Nashville plant totaled 180,000 sq. ft. and an expansion program increased space to 817,000 sq. ft. by the fall of 1941. Production of the Vultee dive



**PRESIDENT**—Prior to merger, Harry Woodhead became president of both Consolidated and Vultee and was prominent executive during war years.

bomber Vengeance was shifted to Nashville and Stinson resumed operations at the Wayne, Mich., factory.

Expansion was the order of the day at Downey, Calif., too. Vultee's home plant there had 133,000 sq. ft. early in 1938, when the only work on hand was the V-11 attack plane (and the working capital at one point was a deficit of \$175,000). By May of 1940 (when President Roosevelt asked for production of 37,000 military planes in the next 18 months), the factory had grown to 325,000 sq. ft. By 1941 this figure was more than tripled—1,008,000 sq. ft.

The first powered assembly line ever used in an aircraft plant was put in operation at Downey in May, 1941. It was planned by Don I. Carroll, Vultee vice president for production, and General Manager Charles W. Perelle. The system featured 25 cradles riding on an oval overhead track. Raw fuselage frames carried in the cradles passed through 25 assembly stations to receive electrical systems, cockpit enclosures, instrument panels and the like.

Leaving the track 40 hours later, the frame was ready to receive such major subassemblies as power packages, tail assemblies and wing center sections. Fortune magazine reported that the powered line and other changes had cut final assembly

time on trainers 75 per cent, and reduced costs an estimated 40 per cent.

Additional conveyor systems were installed, two of them reaching all the way through subassembly departments into fabricating divisions. Powered final assembly lines later were installed at Nashville, and adopted by Consolidated at San Diego and Fort Worth, and by Ford at Willow Run.

Along with powered lines, Vultee also pioneered in the employment of advanced machine processes. Production time on wing ribs for the trainers was cut from 16 hours to five when Minster crank presses, using accurate steel dies, were substituted for drop hammers. An automatic rivet gun and bucking bar, yoked and suspended from a counterbalance, enabled one woman to accomplish the work formerly done by two men. Steel tube fuselage sections were finished nearly 12 times as fast after development of a master milling and drilling fixture.

By the fall of 1941, Vultee was employing nearly 10,000 workers at its three divisions, Downey, Nashville and Wayne, and had a backlog of \$178 million in domestic and foreign military orders.

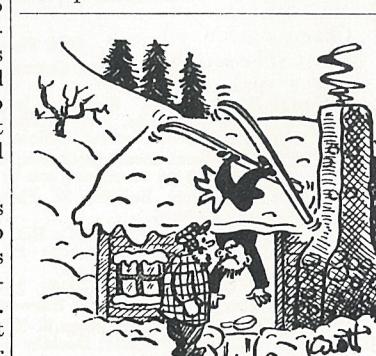
The purchase of Reuben Fleet's Consolidated Aircraft stock, contracted for in late November, brought about a near merger of the two companies under the direction of Aviation Corp., which owned 71 per cent of Vultee Aircraft and hence controlled both organizations. Tom M. Girdler was granted part-time leave from Republic Steel to serve as board chairman and chief executive officer of the companies. Under him as president of both was Harry Woodhead.

At San Diego I. M. Laddon became executive vice president and general manager of Consolidated and was elected a vice president of Vultee. David G. Fleet, a Consolidated director and son of its founder, was shifted to Downey as Vultee executive vice president in 1942.

To finance purchase of Fleet's holdings, Vultee sold 240,000 shares of preferred stock to underwriters for \$5,430,000, and 150,000 shares of common stock to the parent Aviation Corp. for \$1½ million. The company obtained an additional \$2,350,000 from current funds or increased bank loans, and gave Fleet a promissory 3 per cent note for the remainder, \$1,665,000. This was payable in cash or stock by June 30, 1942.

The mechanics of merging the corporations were worked out during 1942, and in January, 1943, directors of both approved a form of agreement having three main points: Consolidated would be the surviving corporation, its name changing to Consolidated Vultee Aircraft Corp. Consolidated's common stock would remain outstanding as CVAC common, with each share of Vultee common stock converting to 45/100th of a share of CVAC common, and Vultee preferred becoming CVAC preferred.

Stockholder meetings approved the proposal March 17, 1943, and it became effective when articles of incorporation were filed in Delaware the next day. The boards of directors were merged and the top executive team continued to be Girdler and Woodhead, with Laddon as executive vice president.



"Slight miscalculation, eh?"



PARTY PORTRAIT—Members of CRA Council and Manager's Operating Council pose for portrait taken during dinner at annual dinner-dance honoring members of CRA Council. Japanese lanterns hanging from ceiling and palm tree centerpiece on table added to Polynesian decor theme.

## Log Book Entries

### Promotions

**Fort Worth**  
Promotions to and within supervision, professional and administrative effective July 4:

Dept. 4: to buyer-senior, E. B. Colley; to material control supervisor, C. W. Bryan.

Dept. 6: to aerodynamics engineer senior, A. G. Kromis; to aerodynamics engineer senior, M. W. Bahnman, B. E. Pope;

to associate engineer, J. D. Long, J. M. Wilson Jr.; to design engineer, D. L. Boyd, H. F. Byrd, R. D. Dasenbrook, J. A. Grant, J. D. Hester, W. B. Mitchell, J. W. Moore, W. R. Richter; to design engineer senior, J. B. Cras Jr.; to design group engineer, C. F. Crabtree Jr.; to engineering drawings checker, E. M. Engelman; to engineering publications assistant supervisor, R. V. Hendricks, I. N. Samuels; to engineering publications editor, R. P. Bechler; to engineering writer, J. C. Gilliland, R. B. Lawrence; to flight test engineer senior, A. A. Bishop; to group engineer, H. Z. Scott; to nuclear engineer, E. McCray; to structures engineer, L. G. Davis, H. L. Spence; to test engineer, C. O. McCleeny; to test engineer senior, P. Rudy.

Dept. 17: to clerical assistant supervisor, S. D. J. Craig; Dept. 25: to departmental assistant, W. P. Bryant; Dept. 29, to inspection supervisor, M. F. Wallace; to quality control engineer, H. E. Martin.

Dept. 63: to assistant foreman, R. L. Scholwinski Jr.; to field operations supervisor, M. L. Duncan; to field operations supervisor, Z. T. Stuart Jr.; to general foreman, M. W. Holley.

Dept. 65: to assistant foreman, W. E. White; to assistant general foreman, F. J. D. Bowen; to general foreman, C. Houph Jr.

Dept. 78: to assistant general foreman, J. F. Mohrbacher, F. C. Shipley; Dept. 86: to reliability projects administrator, G. H. Craig Jr.

Dept. 89: to cost analyst, F. E. Emerson; to material cost control coordinator, A. L. Meadows II; to subsystems cost coordinator, G. L. Parker; to subsystems cost supervisor, J. L. Boyd.

Dept. 92: to assistant general foreman, J. Christian; Dept. 94: to assistant foreman, R. W. Bunn.

### Awards

The following received Employee Suggestion awards totaling \$2,707.55 for the period ending July 1:

Dept. 4, B. J. Hennersdorf, G. H. Macintyre, O. C. McIntire, J. A. Robertson, R. N. Stivers, C. A. Young.

Dept. 6, V. R. Gipson, L. H. Huntington, B. B. Miracle, B. Phillips; Dept. 17, W. E. Welch.

Dept. 19, W. R. McCord, E. D. Smith; Dept. 21, L. V. Plocek; Dept. 24, J. E. Ferrell, R. T. Parker, I. Pulley Jr.

Dept. 27, B. J. Corbell, R. E. Mullett; Dept. 30, A. Camacho, J. Heath, C. E. Mitchell, E. D. Patton, W. J. Pike.

Dept. 31, R. E. Brown, R. M. Duke; Dept. 32, R. H. DiOrio, G. M. Hamby, M. H. Lemme, M. F. Perkins.

Dept. 33, A. Ferri, C. W. Miller; Dept. 35, S. Y. Hill; Dept. 41, J. C. Pursley, W. S. Wootten Jr.

Dept. 46, F. F. Henslee; Dept. 54, S. V. Mitkowski; Dept. 57, H. C. Inmon, E. Kardaras, J. W. Thomas, J. B. Walker.

Dept. 58, L. L. Eubanks; Dept. 59, F. C. Brown, J. V. Campbell; Dept. 73, J. R. Sweeney; Dept. 74, G. A. Smith, C. A. Underwood.

Dept. 81, L. M. Chaffin; Dept. 82, J. T. Lloyd Jr.; Dept. 93, W. S. Moffat.

Also C. D. Rinchart, formerly of Dept. 93 and H. C. Woodrum, formerly of Dept. 64.

### Retirements

BARNARD—B. B., Seniority date Nov. 6, 1950 (FW), retirement effective May 23, 612 W. Chambers, Cleburne, Texas.

RAY—F., Dept. 30, Seniority date March 8, 1949 (FW), retirement effective June 14. Rt. 1, Box 234, Grapevine, Texas.

TUCKER—H. M., Dept. 22, Seniority date August 23, 1950 (FW), retirement effective June 25, 609 Hassett, Fort Worth, Texas.

### Births

**Fort Worth**

LEWIS—Lisa Kay, girl, 8 lbs. 12 ozs., born July 11 to Mr. and Mrs. D. V. Lewis, Dept. 3.

**Daingerfield**

WALL—Steven Ray, boy, 5 lbs. 5 ozs., born June 4 to Mr. and Mrs. M. M. Wall, Dept. 9.

### Deaths

GRANTHAM—D. W., Dept. 25, died June 18. Survivors include his wife and two sons.

LITTLE—C. A., Dept. 81, died June 17. Survivors include his wife, two daughters and one son.

MITCHELL—W. W., Dept. 25-3, died July 2. Survivors include his wife and two brothers.

MONROE—R. M., Dept. 82, died May 8. Survivors include his wife, one son and one granddaughter.

SALMONS—J. L., Dept. 32, died July 7. Survivors include his wife, two daughters, one son, his mother, four brothers and three sisters.

### Lost and Found

LOST—green snorkel Schaefer fountain pen, engraved C. E. Miller. Contact C. E. Miller, ext. 2503.

### Hitchhikers

#### Ride Wanted From

4378 McCart (South Side), 8 a.m. shift, call E. H. Gower, WA 4-6973.

1216 Gambrel (South Side), 8 a.m. shift, call Ramona Harvey, WA 1-1156.

3630 Crestline, 8 a.m. shift, call Sondra Mullins, ext. 2771.

1208 S. Jennings, 8 a.m. shift (lot 2 or 3), call Elaine Couch, ED 2-4955.

North Hills, 7 a.m. shift, call Perry Fisher, TE 8-7698.

5009 Pershing (Arlington Heights), 7 a.m. shift, call Sue Woodward, PE 2-1825.

3229 Sondra (Westgate Apartments), 8 a.m. shift, call ED 2-2458.

2904 Merrimac (Arlington Heights), 7 a.m. shift, call Howard McPherson, ED 6-0645.

Midlothian or Alvarado, 8 a.m. shift, call Margie Dillard, VE 2-9F11 (Venus), or ext. 3613.

1211 S. Jennings, 7 a.m. shift, call Felix Fuller, ED 6-0054.

#### Riders Wanted From

Browning Heights, Haltom City area, 7 a.m. shift, call TE 8-6514.

Hurst, 7 a.m. shift, call J. W. Norris, AT 4-7104.

South Hills, Westcliff, 8 a.m. shift, call WA 3-4133.

Haltom City, Browning Heights Area, 3:45 p.m. shift, call TE 4-1218.

## Convariety

First Place Winner  
International Council of Industrial Editors

Founded Sept. 1, 1948. Published in six editions (Fort Worth-Daingerfield, San Diego, Pomona, Astronautics, Mail Edition and Antelope Valley-Holloman) by Convari Industrial Relations, General Offices, San Diego, Calif., Logan Jenkins, editor.

Approximate current total circulation, over 65,000. News items and letters to the editor are solicited, but no advertising can be accepted.

SD Editorial Offices, Building 32, Plant 1, ext. 1071. Staff: Grayce Fath, Helen Pemberton, Fred Bettinger.

FW Editorial Offices, Col. 73-C, Ext. 2961. Mailing Address: Convariety, Convar, Fort Worth, Texas. Telephone PE 8-7311. Staff: Dave Lewis, Fort Worth editor; Susan Tilley, Mary Beck.

Astronautics Editorial Offices, Bldg. 2, new plant, ext. 1154. Staff: Bryan Weick-

ersheimer, Astronautics editor; Bill Harwood.

Pomona Editorial Offices, Room K-222, Bldg. 2, ext. 6226, mail zone 3-8, Staff:

James Combs Jr., Pomona editor; Dorothy Keller.

Palmdale Editorial Offices, Room 103, Bldg. 301B, Palmdale, ext. 337. Staff:

Betty Lou Nash.



GIFTS—Frank W. Davis, Conair vice president and FW manager, inspects golf balls given him by CRA Council. Second half of gift was de-magnetizer for use in Davis's hobby, amateur watch-making.

AWARDS — Milton Stewart, welfare commissioner, accepts award to his activity as outstanding CRA group of 1959-60. Finn Wahl makes presentation at annual banquet.

AND DANCING—After presentations and introductions, Curly Broyles Orchestra played for dancing till midnight. Indulging in short cha-cha-cha were Ken Dunn, manager of office services, and wife.

## The Passing Years

**Fort Worth**

The following emblems were due during the period August 1 through August 15: Twenty-year: Dept. 6, J. A. Graham Jr.; Dept. 64, C. R. Cottle; Dept. 85, E. D. Mathis.

Fifteen-year: Dept. 6, G. C. Brogdon, J. R. Massie; Dept. 20, G. B. Wohlford; Dept. 27, J. W. Williams.

Dept. 28, K. L. Rogers Jr.; Dept. 56, W. P. Matheus; Dept. 89, C. S. Hinton; Dept. 94, J. A. Cobb; Dept. 96, O. R. Marsden.

Ten-year: Dept. 2, I. M. Hollingsworth; Dept. 3, T. G. Croft, D. T. Maxwell; Dept. 4, E. L. Hancock, T. A. Rutledge.

Dept. 6, J. W. Alexander, J. R. Frasher Jr., D. Trahey Jr.; Dept. 7, K. W. Bates; Dept. 8, G. D. Schneider.

Dept. 14, J. B. Fussell; Dept. 15, A. D. Carter, E. C. Edmondson, L. W. Hamilton, J. R. Huff, J. V. Mashburn, R. E. Noakes, A. D. Speight, C. G. Swiney, J. M. Wood.

Dept. 20, R. Hardin, M. F. Lindsey, C. A. Presley, R. L. Titch; Dept. 21, J. O. Morrow, N. L. Martin, W. S. Ryan.

Dept. 22, W. H. Anderson, W. K. Bustle, C. H. Cornelison, R. W. Courtney, J. V. Davidson, H. C. Elliott, T. B. Everett, R. Harrah, J. L. Hollingsworth, R. O. Kennedy, W. D. Mattson, J. W. Moulton, J. B. O'Toole, R. L. Phipps, E. C. Reese, H. G. Robbins, M. O. Secret, J. L. Smith, C. L. Cheves, D. P. Thomson, S. O. Waldrop, T. L. Walters.

Dept. 24, W. B. Bellomy Jr., R. Carter, C. G. Foreman, R. S. Irving, F. R. Kearns, L. J. Nally, R. E. Power, T. M. Rigby, J. D. Satterwhite, E. J. Seilheimer, C. B. Smyth, T. Stockstill.

Dept. 27, L. L. Cooper; Dept. 30, J. L. Erskine, M. Sorrells; Dept. 33, W. L. Grimes, R. W. Koehler.

Dept. 36, G. S. Brierton, L. F. Hood, J. H. Lee, W. F. Marsh, E. L. Rhea; Dept. 46, E. J. Thompson.

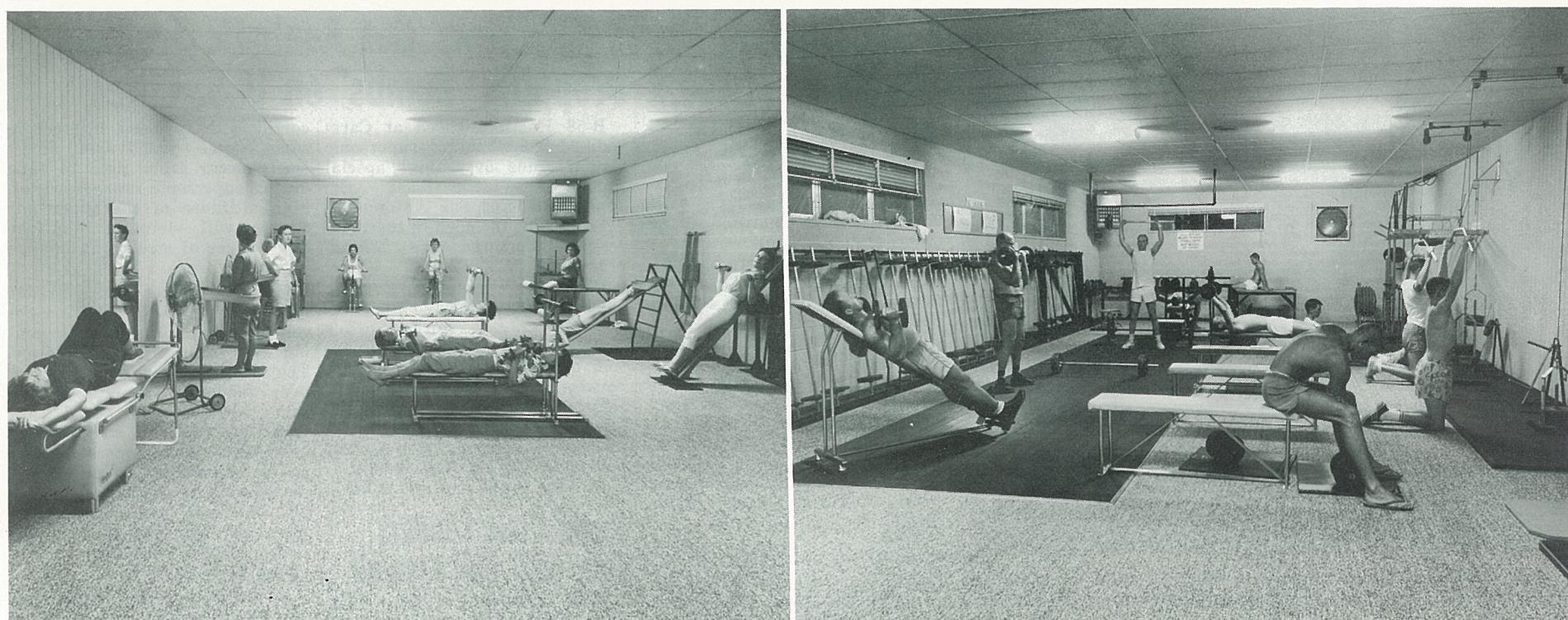
Dept. 64, J. R. Laney Jr., R. Rash; Dept. 75, K. C. Bech, H. L. Bellows, T. R. Stacks.

Dept. 81, T. J. Parker; Dept. 89, R. L. Craig; Dept. 93, B. J. Block.

Daingerfield

Ten-year: Dept. 3, R. T. Coker.

NEW QUEEN—Barbara Leach, left, will reign as "Miss CRA of 1960" following selection at plant-wide dance July 9. She is daughter of B. H. Leach, Dept. 56. Brenda Haynes, right, daughter of G. H. "Sandy" Haynes of Dept. 7-7, was runner-up. Contest was sponsored by CRA health club, under direction of H. L. Carter, commissioner.



**HEALTHY ATMOSPHERE**—Men and women, members of CRA health club, find two new 60 x 24 foot gyms at CRA Clubhouse sufficient for all body building and trimming exercises. Since opening, gyms have been packed with people enjoying new facilities and equipment.

### Health and Weight Lifting

## Two Brand New Completely Outfitted Gyms Provide Body Building Opportunities at CRA

Working in brand new gyms with bar bells, vibrator belts, exercycles—CRA health club participants, men and women alike, now have maximum opportunity to build trim, healthy bodies.

Featuring the latest in health and body building equipment, the two 60 by 24-foot gyms have been packed daily with weight-lifting men and hip-trimming women.

They have the benefit of expert instruction from CRA Health and Weight Lifting Commissioner H. L. Carter, who has taken physical education courses at TCU and is a graduate of a recreational school.

Of the recreational school, where he learned all the muscles of the body and what to do to build them, Carter says, "it was almost as detailed as medical school. We learned every muscle, what is good for it and what is not, which ones we want to develop and which ones to leave alone."

He has compiled his knowledge in instruction sheets which he uses to supplement personal lessons. People may come to the health rooms at CRA Clubhouse and obtain full benefit from the equipment at any time, simply by following suggestions included on the instruction sheets at the registration table.

Both men's and women's gyms maintain card files on which members keep records of their weight, measurements and the exercises they are doing. Facil-

ties even include scales and tape measures for these purposes.

Only requirement for entrance in the health rooms is a \$2 membership card which may be purchased at CRA Office in the plant. Only third shift employees may buy cards at the Area.

CRA has set up rules to keep safety at a maximum and to help maintain clean, efficient operation of the gyms. Participants are expected to keep locker rooms orderly, wear rubber sole shoes in the men's gym, adhere to no smoking rules and bring children in only if they are accompanied by an adult.

In return, they are afforded use of the very latest in body building, weight lifting, muscle toning and reducing equipment.

The men's gym is outfitted with 10 to 85-pound dumb bells and 10 to 360-pound bar bells. Carter says particularly nice pieces of equipment are the two regulation Olympic bars with ball bearing rollers, which were recently added.

There are special set-ups for strengthening certain muscles—for instance, the calf or the thigh.

Carter says consistent workouts can produce a noticeable change in physique within six weeks. He's even seen men win weight-lifting contests after only that much time training.

Not hoping to become muscle-bound, the CRA women nevertheless make good use of many pieces of equipment similar to the men's. They use weights

and muscle toning equipment to firm-up their thighs or arms, to flatten their tummies or develop contours.

The vibrator belts are a favorite among women who wish to "shake off" a few inches on their hips, waists or stomachs. And there's a Slenderette vibrating table for the laziest of exercisers.

After a good work-out, steam cabinets are available in both men's and women's areas. There, health club members can relax and keep their muscles from getting tight.

Then, what better way to top it all off than with a good sun bath? CRA can accommodate there too. In both areas are full-length sun lamps—five minutes in front of one is equal to 30 minutes in actual sunlight.

### CRA Bridge Players Win Texas Tourney

Two CRA bridge players, H. H. Pinkerton and Mrs. Virginia Hale, topped 400 of the nation's leading bridge experts to win the mixed pair event in the Republic of Texas Bridge Tournament at Hotel Texas July 3.

No newcomers to the winners circle in bridge, Pinkerton and Mrs. Hale are repeated winners in CRA tournaments. Pinkerton holds the title of Life Master, the highest ranking obtainable in bridge.

Other CRA players are invited to try their skill with special problem hands to be set up and played July 22 at the regular Friday night duplicate session. Play begins at 7:15 p.m. at CRA Clubhouse.

### CRA Golfers Set Plant Wide Tourney

The annual plant-wide championship golf tournament will begin Aug. 31, but deadline for entries is Aug. 8 at 4:30 p.m. Registration is in CRA Office.

Championship flight and first flight will be medal play. The remaining flights will compete at match play.

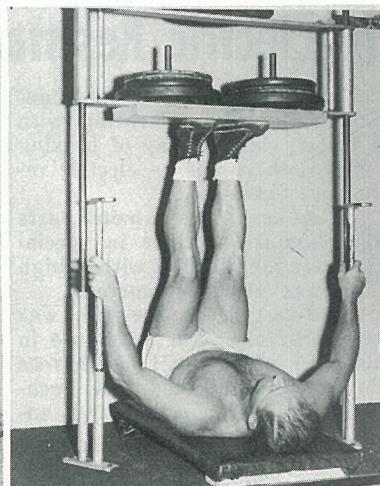
To be eligible to compete, a player must have an established handicap on record in the CRA Office. Tooling and Engineering League handicaps will be acceptable if established on a minimum of 54 holes of play.

### Adult Tennis Class Begins on August 2

Frank Calderola and Gene St. John are permanent instructors for CRA adult tennis classes which began Aug. 2. Players will meet weekly at 6:30 p.m. at CRA tennis courts. Balls will be furnished, but students must bring their own racquets.



**SHAKER** — Vibrator belt in CRA women's gym is used to take off inches on waist, above, but can be used for hips or stomach equally effectively.



**STRONG MAN** — Using leg press to build up muscles in legs is member of CRA men's health club. More weights can be added at top.

## Rowell and Johnson Place First In CRA Camera Club Contest

W. M. Rowell Jr. and W. S. Johnson won first place ribbons in the June 22 contest sponsored by CRA camera club.

Rowell won the Class B event, with Linda Parish and Roy Pachio in second and third places.

Johnson, in Class A, was followed by second place winner

Art Hoel, Johnson also took third, and Claude Stone was fourth.

A record field of ten contestants entered the Class B black and white print contest in which Shell Gibbons of the FW Camera Club was judge. Seven of the entrants were graduates of the beginners' photography class taught by O. T. Stoll.

Next club contest will be a color slide event at CRA Clubhouse at 7:30 p.m. July 27.

Currently, at the quarter mark in the contest year, Hoel and Johnson are point leaders with a tie of ten each toward the "Photographer of the Year" award.

In each of the periodic contests, four points are awarded for a first place win, three for second, two for third, and one for fourth. One entry point is allowed each contestant.

## Checker Tournament Winners to Receive Three Prize Radios

Three transistor radios go on the block as prizes for the plant-wide checker tournament set for July 30 at CRA Clubhouse.

Commissioner Dave Smith will award a six transistor radio to first prize winner, two transistor set to second, and two transistor with earphone reception only to third place winner.

A standard round robin point system will be used in determining winners in the games which will continue from 1-6 p.m. Players will play two games before moving on to next opponents.

Employees only are eligible and may sign up at CRA Office or at the Area. They may also register by phone with the tournament co-chairmen: Gerald Ivy, ext. 3188, or Ed Luedtke, ext. 3944.

Deadline for registration is July 29 at 4:45 p.m.

## Activities Calendar . . .

Convair Recreation Association events in the next two weeks are listed below. Readers interested may clip this column and save it for reference until next issue of Convairietry. For more information, phone CRA office, ext. 2771 at Fort Worth, ext. 424 at Daingerfield.

### Fort Worth

Tonight, July 20

ASTRONOMY: meeting, 7:30 p.m., CRA.

RANCH ACTIVITY: roping, 7:30 p.m., CRA.

Thursday, July 21

RADIO: operating, 7:30 p.m., CRA; Convair inter-division amateur radio club net, 9 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m.;

SOFTBALL: second shift, 10 a.m., CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Friday, July 22

BRIDGE: duplicate session, 7:45 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m.;

ranch area, CRA.

Saturday, July 23

TENNIS: lessons, 8-11 a.m., CRA.

Sunday, July 24

RADIO: business meeting, 3 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m.;

roping, 7-9 p.m.; ranch area, CRA.

TABLE TENNIS: play, 2 p.m., CRA.

Monday, July 25

MOVIE: "Gun for a Coward," (color).

Shown lunch period, 50-foot aisle.

Tuesday, July 26

RANCH ACTIVITY: cutting, 6-8 p.m.;

ranch area, CRA.

GARDEN CLUB: meeting, 7:45 p.m., Garden Center.

Wednesday, July 27

ASTRONOMY: meeting, 7:30 p.m., CRA.

BRIDGE: duplicate session, 9:30 a.m., CRA.

CAMERA: color slide contest, 7:30 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., CRA.

Thursday, July 28

RADIO: operating, 7:30 p.m., CRA;

Convair inter-division amateur radio club net, 9 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m., CRA.

SOFTBALL: second shift, 10 a.m., CRA.

SQUARE DANCING: classes: beginners,

7 p.m.; advanced, 8:15 p.m., CRA.

Friday, July 29

BRIDGE: duplicate session, 7:45 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m.,

ranch area, CRA.

Saturday, July 30

TENNIS: lessons, 8-11 a.m., CRA.

Sunday, July 31

Checkers: tournament, 1-6 p.m., CRA.

GO KART: race, 2 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m.;

roping, 7-9 p.m.; ranch area, CRA.

SKIN DIVING: spearfishing contest, 7:30 a.m., Lake Travis, Austin, Texas.

TABLE TENNIS: tournament, 2 p.m., CRA.

Monday, August 1

MOVIE: "Four Guns to the Border."

Shown lunch period, 50-foot aisle.

Tuesday, August 2

RANCH ACTIVITY: cutting, 6-8 p.m.,

ranch area, CRA.

Wednesday, August 3

BRIDGE: duplicate session, 9:30 a.m., CRA.

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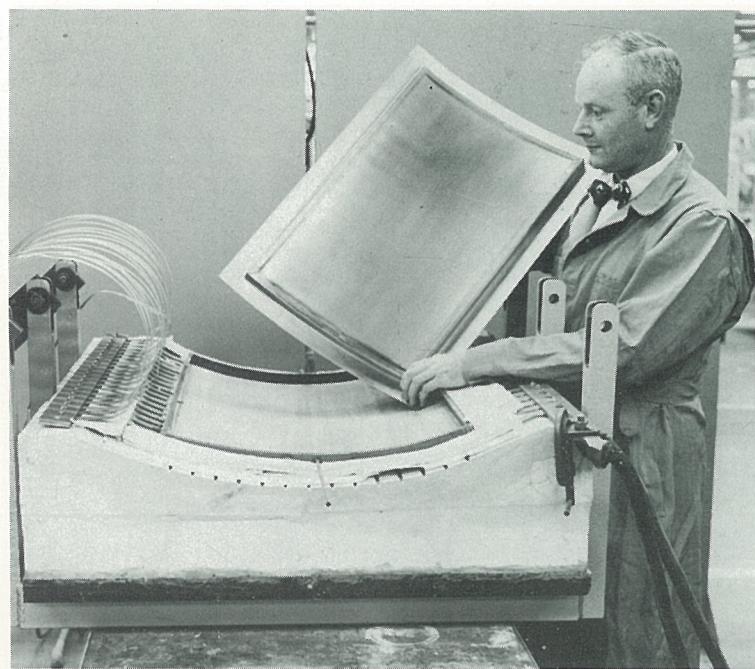
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Frank Calderola and Gene St. John are permanent instructors for CRA adult tennis classes which began Aug. 2. Players will meet weekly at 6:30 p.m. at CRA tennis courts. Balls will be furnished, but students must bring their own racquets.

### Table Tennis Meets Kick Off on July 31

The kick off for monthly table tennis tournaments will be 2 p.m. July 31 at CRA Area. There is no entry fee for the round robin event, and Commissioner M. A. Burt urges all interested players and fans to attend.



**ELECTRIFIED**—B-58-type nacelle made by electric resistance brazing is shown by J. F. Cochran, manufacturing research engineer.

## New Techniques Added by Convair To Electric Resistance Brazing

Manufacturing research at Convair FW is experimenting with a faster, cheaper way of brazing honeycomb panels — electric resistance brazing.

In the new process, metal parts are clamped together in special fixtures, then heated with a high amperage electrical current.

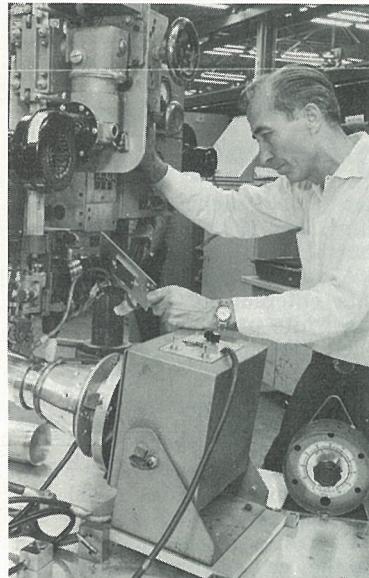
"A B-58-type nacelle panel was brazed by electrical resistance in about 85 minutes at 1,650 degrees Fahrenheit," reported J. E. Cochran, manufacturing research engineer.

Cochran said that Convair FW's work in resistance brazing parallels that being done industry-wide, except for "notable improvements here in hot tooling and protective atmosphere techniques."

"Resistance brazing is being planned for extensive usage in manufacturing more sophisticated weaponry," Cochran said.

He said the system was also cheaper, since cost of capital equipment is lower and production costs would be cut.

## Automatic Weld Process Added, Permits Lengthening Pitot Mast



**AUTOMATIC**—N. E. Wedel, Dept. 32 at Convair FW, operates automatic welding machine—first of its kind in plant.

Maximum efficiency of B-58 Hustler air speed indicators is possible because of an automatic welding process now in use at Convair FW.

The aluminum Pitot static mast, an 88-inch tube extending from the Hustler's nose, contains the air speed indicator at the end. Because of shock turbulence, it is advantageous to get the indicator as far away as possible from the wings — out in undisturbed air.

Before automatic weld came into use, the mast could not be made as long as necessary — too much distortion would result from hand welding. But the electrically-controlled welding machine holds metal and torch and feeds the wire, satisfying close tolerance requirements of the long mast.

Not only is it more accurate than hand welding, the automatic method can weld 20 inches a minute as compared to four or five inches by hand.



**RESERVISTS**—Convair FW Naval Reserve officers recently visiting Rocketdyne solid propulsion fuel plant at McGregor were, from left: Lt. P. M. Sonnenburg, Cdr. E. W. Snowden, Lt. (jg) D. H. Lind, Lt. (jg) S. M. Shelton, Cdr. H. N. Nesbitt, and LCdr. J. M. Hayes.

## B-58 Winding Up Pod Drop Phase, Another Begins

B-58 No. 4 will soon begin one phase of pod-drop tests, while Hustler No. 38 will wind up another.

The two Hustlers are slated to swing into action in September, following modification for the pod test program.

No. 38 will conduct the final two test drops of an MB pod in sorties over White Sand Missile Range in New Mexico. A Carswell AFB crew will make the second drop. Simulated warheads will be used on these missions, according to Jim Graham, pod team captain in charge of the overall pod-drop program.

"These two drops will complete Convair FW's regular MB pod testing program," Graham said.

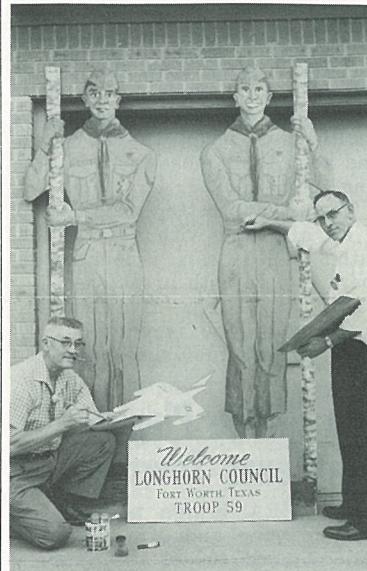
After shakedown and initial pod-drop flights from Convair FW, No. 4 will journey to Kirtland AFB for "about a year" to conduct further drops of two-component pods.

Team Captain R. P. Andrews said about 45 Convair FW people will accompany No. 4 to Kirtland for duration of the tests.

Pod drops will be made at White Sand Missile Range and Tonopah Test Range in Nevada.

"Purpose is to test separation and ballistic characteristics of the pod," Andrews said.

Andrews said further details of the program would be announced this fall.



**ART WORK**—Putting finishing touches on Longhorn Troop's "gate," which includes B-58 model, are J. P. Evans, left, and Al Freedman.

## BOY SCOUT EXHIBIT WILL INCLUDE B-58

Fort Worth's Longhorn Troop No. 59 is adopting the B-58 to show contrast in old vs. new modes of travel.

Convair Management Club members helped make a B-58 model, which together with two eight-foot wooden Scouts will serve as a "gate" to Troop 59 area at Golden Jamboree encampment in Colorado Springs this summer.

The gate will be placed next to a covered wagon, depicting the rapid development in transportation during the past 50 years of scouting.

Club members working on the project were: Joe Phipps, tooling; J. T. Lawrence, J. C. Bell, Bill Erwin and Porter Evans, tooling publications; O. H. Hill, tool room and fixtures; and H. T. Hicks, manufacturing research and development.

Boy Scouts who cut poles for the gate were Jackson Wilson, Earle Smith, David Parkin and Johnny Parkin.

## Rocketdyne Names New Representative

A new Rocketdyne representative, Jack Chiavario, has joined Astronautics to work primarily with educational services in providing special courses in Atlas propulsion systems.

## B-58 Crews Get Realistic Training Dropping 'Bombs' on U.S. Cities

B-58 Hustlers based at Carswell AFB are making supersonic "bomb" runs over three special routes—into Little Rock, Ark., Joplin, Mo., and San Antonio.

Soon to be included in the theoretical bombings are Laurel, Miss., and Amarillo.

Cities are sites of SAC radar bomb scoring detachments, with headquarters at Fort Worth's Carswell AFB. Using a combination of radio and radar contact between the Hustlers and RBS sites, SAC can actually score the bombing effectiveness of each of its combat crews without ever having to drop a single bomb.

Citizens in the supersonic bomb

corridors have been briefed on sonic booms—which must necessarily occur from time to time during supersonic runs. However, high altitudes of the supersonic flights will virtually eliminate any danger of structural damage to ground areas.

With supersonic runs and radar bomb scoring, B-58 crews are receiving the most realistic training ever offered a bomber crew. They can make "bomb drops" over industrial targets at the same altitude and speed they would use in actual combat. The new bomb scoring methods give navigator-bombardiers practice in recognizing target cities, factories, buildings and other structures as they appear on radar scopes. And it tells them exactly where their bomb "hit."

As the B-58 heads for the bomb site, RBS radars lock onto it, tracking it automatically on a plotting board. Just before the simulated release of the bomb, the bomb-nav operator turns on a radio signal which is transmitted to the RBS site.

The "bomb release" is indicated by turning off the radio signal. Computers take into consideration distance and direction, target, ground speed, heading and altitude, wind conditions, bomb-fall characteristics and determine accuracy.

## Mold Release Agent Is 'Secret' Of New FW Finishing Process

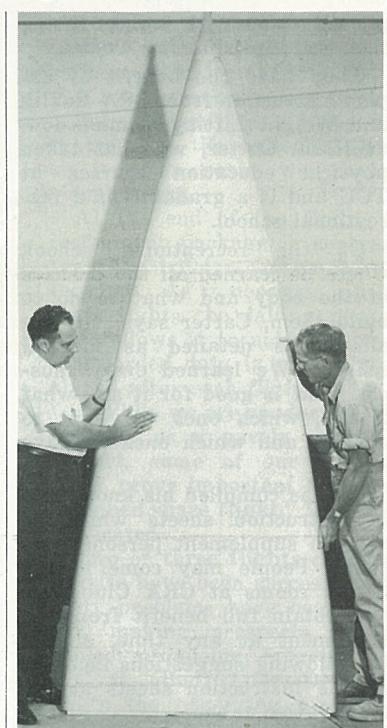
A new finishing process developed by L. L. Clark, Dept. 28-4 at Convair FW, is saving \$3,200 per airplane on wheel well fairings alone, and cutting manufacturing time on the part from 75 to 18 hours.

The "secret" of the process is a mold release agent which allows finish for the fairing to be sprayed onto the mold where the part is placed and cured. The release agent lets the part come out easily with the finish an integral part of it.

The idea of spraying the finish on the mold and curing it on the part is not new. It has even been tried before, but never with any measure of success, because the finished part would not separate neatly from the mold. But with Clark's release agent it's a simple process.

In former methods, the part was first molded, then removed and finally finished in a separate process.

Dept. 8, in investigating further application of the new process, has estimated that an eventual saving of a quarter-million dollars annually is possible.



**SPRAY FINISH**—Spray finish for B-58 wheel well fairings is possible with new process developed by L. L. Clark, left, Dept. 28-4 at Convair FW. With R. R. Rouse, Dept. 74, he inspects finished fairing.

## Convair Spurs Win Additional Honors

Convair Spurs have done it again!

The plant's Chamber of Commerce continuous membership committee won the two-man team award for the third straight time, with Wally Ahola and Bryan Murphy taking honors.

In addition, the Spurs, led by Chairman John Ringo, garnered 15 of 73 new members, and 69 of 127 combined new and renewed memberships during a one-day drive.

Other Convair Spurs are Ross Carney, Joe Gilleland, Quint Greene, Hugh Grogan, Bill Johnston, Budge Lee, Cecil McClure, Tom Roberson and Fred Sloan.

## Russians Republish Astro Man's Paper

An article written by C. A. Walruff, research test engineer at Astronautics, has been reprinted in a Russian technical publication.

Entitled "Fast Data Processing Key to Atlas Testing," the article first appeared in the magazine "Space Aerodynamics" in late 1958.

The Russian version did not identify the author.

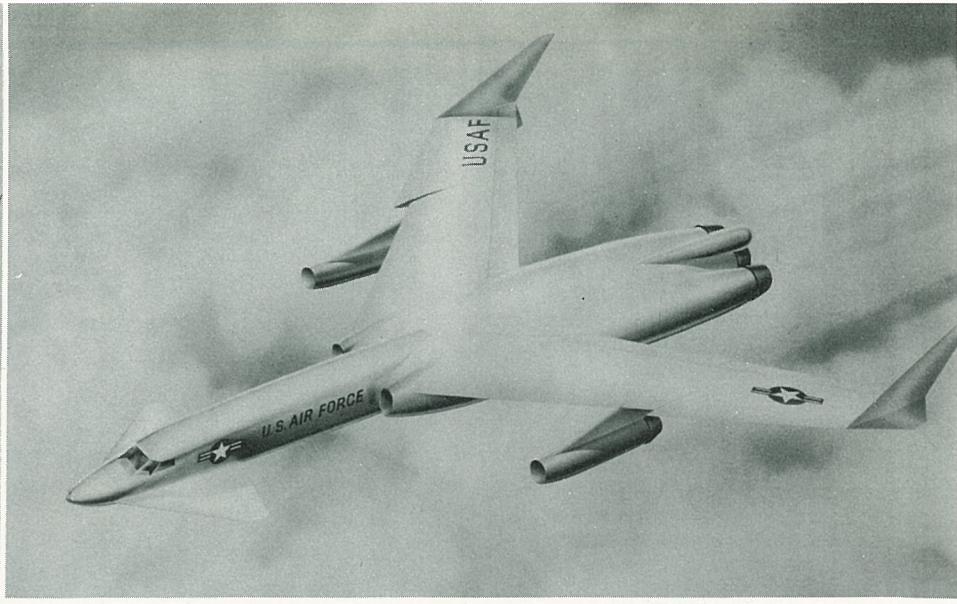
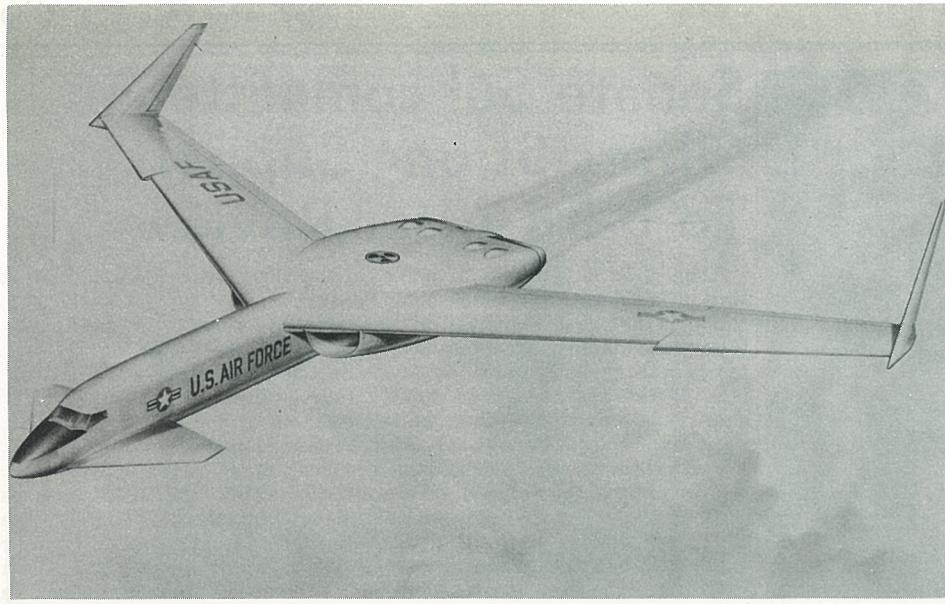
## AF OFFICERS NEAR END OF SD TOUR

Maj. Kenneth Gorton and Capt. Thomas Townes, AF officers, this month are winding up their year in training-with-industry program at Convair San Diego.

For the last couple of weeks they were viewing activities in General Office functions in Bldg. 19 at San Diego under guidance of H. T. Brooks, college relations administrator. This year's term of duty at Convair SD will end in August when they receive new AF assignments.

The training-with-industry program has been conducted at executive level. While at Convair SD the officers have been conducted through the various administrative functions under direction of educational services with Mark Saunders coordinator.

Four AF officers in the same program at Convair Fort Worth were due in San Diego July 18 for a short briefing at Convair SD and Astronautics plants. They are Maj. H. M. Watkins, Maj. F. E. Keller, Capt. M. D. LeBon, and Capt. L. A. Keefe Jr.



ATOMS IN FLIGHT—Two artist's drawings show two versions of atomic powered airplane being designed at Convair Fort Worth. At left model is powered by in-

direct-cycle nuclear engines mounted in tail. At right is version powered by direct-air-cycle engines, plus two jet engines mounted in pods beneath wing.



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# Convairiety

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Wednesday, August 3, 1960

SAN DIEGO, POMONA, ANTELOPE VALLEY, CALIF.

## Club Members To Hear Pace at Aug. 4 Meeting

A message of importance to every member of Convair FW management will be delivered by Frank Pace Jr., chairman of the board of General Dynamics Corporation, at the Aug. 4 Management Club meeting at Ridglea Country Club.

Second big event of the month for members will be a private performance on Aug. 14 of "Li'l Abner," current Casa Manana offering. Tickets are now on sale at regular stations for a bargain-rate \$1.50, less than the cheapest seat in the house for regular shows.

Starring Willi Burke as Daisy Mae and John Craig in the title role, "Li'l Abner" boasts a bevy of Dogpatch girls, rich humor, smart satire and top hit-parade songs, including "Namely You," "Oh Happy Day," and "Jubilation T. Cornpone."

Mammy and Pappy Yokum will be played by the same stars who created these roles on Broadway and in the motion picture version — Billie Hayes and Joe E. Marks. Also featured will be Jack Harrold as Marryin' Sam; Lynne Forrester, Appassionata von Climax; and Gloria Kristy, Stupefyin' Jones.

Curtain time will be 4 p.m., but Program Chairman Del Tallon advises early arrival, as there are (Continued on Page 8)



IT'S ALL YOURS—Convair FW Test Pilot Val Prahl, left, who flew demonstration flights on TB-58 No. 1, turns job over to Maj. Joe B. Thomson, center, for AF acceptance flights. Grover Tate, flight test engineer, is at right.

## TB-58 Flown Supersonic By AF Acceptance Crew

Delivery of the first trainer B-58 to Air Force appeared imminent following a 3-hour, 40-minute flight July 26 by an Air Force acceptance crew.

The flight was "routine—with no major discrepancies to report," according to Maj. Joe B. Thomson Jr., chief of flight operations and acceptance at Convair FW.

Rounding out the crew were Capt. T. H. McMullen, second station, and Capt. R. S. Ballard, third station.

Following a final acceptance flight—or possibly flights—by AF acceptance crew, the trainer will go to Carswell AFB.

"The flight was very satisfactory," Maj. Thomson said. "We averaged about 600 knots and managed to get some supersonic time in."

"We checked the trainer out completely, switching controls from first to second station several times. Capt. McMullen made a routine landing from instructor pilot's post in the second station."

TB-58 No. 1—first of four slated for AF inventory—will be used to train future Hustler pilots in transition and proficiency phases, and to train them in instrument proficiency and standardization procedures.

Although stripped of the Bomb-Nav system, electronic counter-measure systems and defense systems, the trainer is the same as operational Hustlers, aerodynamically and configuration-wise.

"We find that the trainer version has essentially the same handling characteristics as a regular production model B-58," Maj. Thomson said.

First aerial refueling of the TB was carried out in a final Convair demonstration flight with engineering test pilot Val Prahl in first station and Maj. Thomson in second station. Refueling was done from second station.

"The refueling completed a list of second-station controlled operations, including takeoffs and landings," Prahl said.

Flight crew members for a majority of Convair demonstrations included Earl Guthrie in second station, and Grover Tate and Fred Voorhies in third.



DOGPATCH DAME—Dogpatch's most famous "glamour gal," Daisy Mae, will be portrayed by Willi Burke, above, in Casa Manana spectacular "Li'l Abner," slated for private Management Club showing at bargain rate of \$1.50 a ticket.

## Two Engine Types Being Developed For Atomic Plane

A few design study details for a nuclear-powered aircraft, under study by Convair at Fort Worth since 1951, were revealed last week by the Air Force and Convair.

Drawings showed two swept-wing planes, each having an assembly of jet-like engines mounted in the tail of the fuselage. This style is one of several possible configurations under study at Fort Worth where nuclear research is conducted for the AF.

The canard-type planes lack conventional tails. (Canard is defined as "a type of pusher aircraft having elevator, rudder, etc., in front of supporting planes.") At each wing tip is a vertical stabilizer-rudder assembly. The horizontal stabilizer-elevator surfaces are placed far forward on the fuselage, like stubby wings.

One design is for the direct-air-cycle nuclear engines, a type under development by General Electric Co. The drawing for this aircraft shows a pair of conventional jet engines mounted under the wings, in addition to the nuclear powerplant.

The other design employs indirect-cycle engines, a type being developed by Pratt & Whitney Aircraft.

Which kind of powerplant ultimately will be used for the first plane has not yet been determined.

Convair has been conducting

nuclear aircraft studies for the past nine years and is the only company with experience in operating an airborne nuclear reactor. A converted B-36 bomber with (Continued on Page 8)

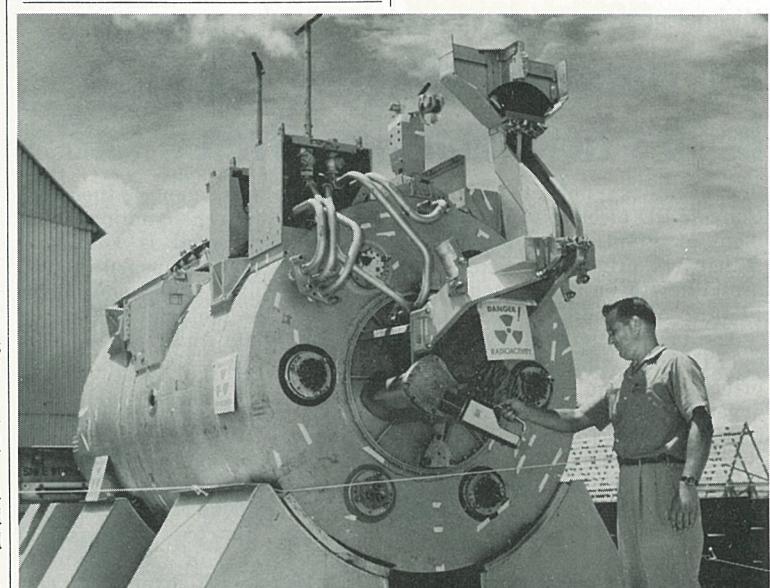
## Airborne Reactor Will Be Retired

Convair FW's first aircraft shield test reactor, which made 47 flights to determine shielding requirements of a nuclear airplane, is about to make one last trip — to the Air Force radioactive burial grounds in California.

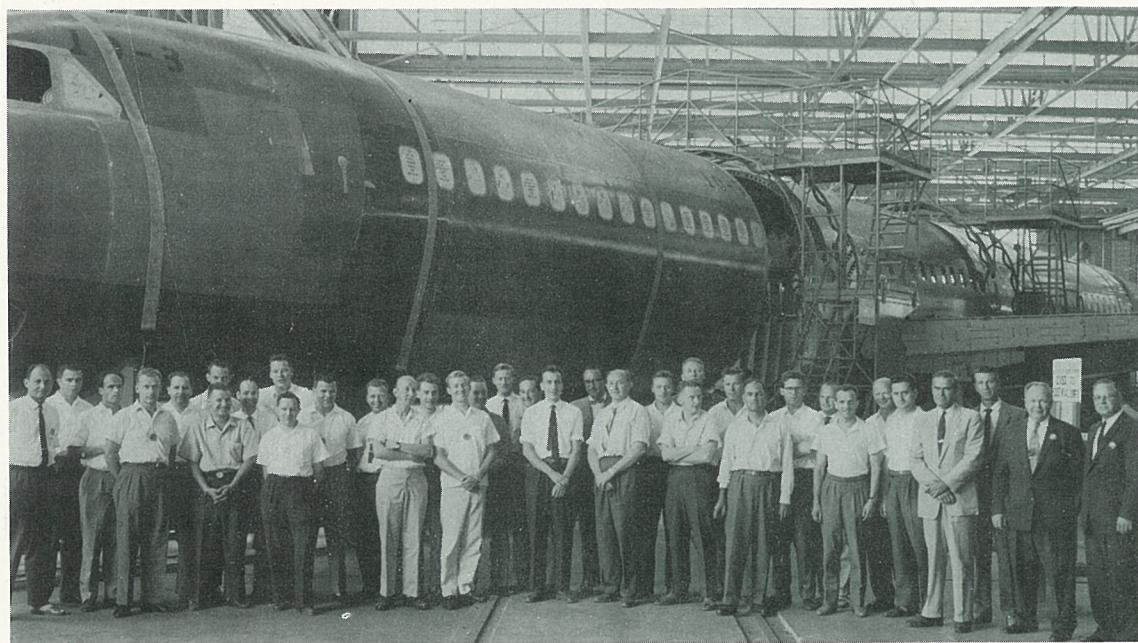
Now nothing more than a skeleton — the source of radiation having been removed — the old ASTR can look back on a useful history, which began in 1954 when the Convair-built reactor made its first flight.

Carried aloft in a B-36, from that time until its last flight in April, 1957, the ASTR gathered radiation data leading toward eventual determination of shielding aspects of an atomic-powered aircraft. Last test involving the reactor was made in Feb., 1959.

Engineers working on the nuclear program now have two more aircraft shield test reactors, more powerful than the original. But the old reactor goes to its grave with the distinction of being the only ASTR ever to fly.



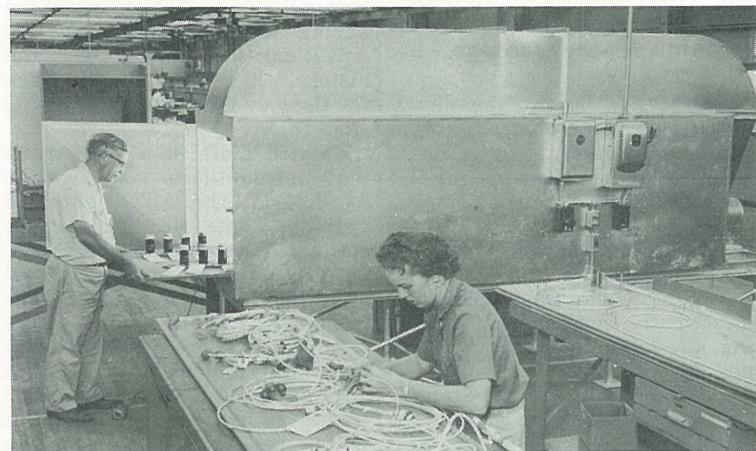
FINAL CHECK—H. R. Oakley, Dept. 3-5 at Convair FW, makes last check for radioactivity before shipping away old aircraft shield test reactor, which made history when it went aloft in B-36.



'600' CLASS—SAS and Swissair key personnel line up beside third Convair 600 jet transport now in mate on Convair SD production line as they arrive at San Diego for first customer service training course. At far right are C. H. Williams, W. F. Ashmore, Frank Laffoon, M. R. Addis, all SD Dept. 15.



F-102 QUEEN—Col. Dick M. Crowell, commander of 331st Fighter - Interceptor Squadron, Webb AFB, Big Spring, Texas, crowns Marilyn Kay Penny "Miss Delta Dagger" at open house.



QUICK DRY—Vincent Crisci, Convair SD electric bench, slides tray of electrical assemblies into new oven for curing as Elizabeth Michael prepares others.

## 880 Electrical Harnesses Baked In SD's New Aluminum Oven

Assemblies put together in Convair SD electric bench department at Plant 1 for Convair jet transports are being baked in a brand-new oven, first used in the Plant 1 operation.

The large aluminum oven, built by SD plant engineering, on the principle of an electric clothes dryer, replaces a battery of lamps formerly used for drying of potting compound on electrical connections. Curing time has been cut from 48 hours at 75 degrees F. to an hour-and-a-half at 180 degrees.

Potting compound, a synthetic rubber material used instead of clamps on electrical assemblies to take strain off solder contacts and provide a moisture barrier be-

## Teams From Swissair And SAS Studying 600

During the next few weeks at least 35 airline men from Scandinavia and Switzerland will be at Convair San Diego to learn the most intimate details of Convair's 600 jet airliner.

First of three training programs for Scandinavian Airline System and Swissair got underway July 18 in Convair SD's customer service training area.

Until Aug. 19, key airline personnel from SAS bases in Denmark, Norway, and Sweden and Swissair's headquarters at Zurich, Switzerland, will be taking courses on the 600's systems. Although the entire group will not be at Convair SD for the full five weeks, a number of SAS and Swissair men will be taking some part of the program throughout the period.

The entire program, set up by transport service section of SD customer service department under L. J. Bordelon, includes three main divisions: electrical, pneumatics, and aircraft systems. Electrical course includes study of flight controls, landing gear controls, fuel system control, fire extinguishing system; pneumatics deals with such areas as ice and rain protection, air conditioning, pressurization. Aircraft systems course emphasizes familiarization

with the plane's structure, flight controls, hydraulic system, landing gear. It will be climaxed with time in the cockpit procedures trainer.

Coordinating the training for Swissair are Max Westreicher, Hans Michel, and Arno Ruffner, while Odd Hokstad is coordinator for SAS's Norway region and H. Moller-Nielsen, SAS Denmark region.

Lodged in San Diego hotels, the Convair 600 students, all training and maintenance supervisors and instructors, as well as pilots and flight engineers, put in a full eight-hour day at the Convair SD plant. Their classes start at 8 in the morning and continue, with only short coffee breaks and lunchtimes, until 5 p.m. when they are delivered back to their quarters in Convair buses.

They are spending the weekends sight-seeing in the Southern California area, with Knott's Berry Farm number one attraction. Disneyland has been a close second. They all say they are revelling in San Diego's warm weather after the cool summer in Europe this year.

Swissair has contracted for seven of Convair's newest jet transports and SAS, two. Deliveries are scheduled to start in the spring of 1961.

Qualifying customer service maintenance courses for American Airlines opened July 25 for a six-week run. Other programs will see Japan Air Lines' people at San Diego for training on the 880-M version toward the end of August, said Don Maxion, SD field service representative coordinating training.

## Convair Scientists To Instruct Courses

Three staff scientists from Convair Scientific Research Laboratory will be instructing graduate courses in San Diego State College's evening program this fall.

J. J. Sheppard will conduct a seminar in mechanical engineering; Bernard M. Leadon will instruct a class in gas dynamics of the upper atmosphere; and W. S. Bradfield, thermodynamics.

All of these courses are designed toward a master of science degree in mechanical engineering.

Final date for graduate admission is Aug. 19. Information may be obtained by calling JU-2-4411, ext. 471.

## Hospital Reservists Go on Active Duty

Five Convair FW employees served on active duty with the 622D USAF Hospital (Reserve) at Carswell AFB July 16-30.

They were Teddy Hayes, Walter R. Hill, James Hanson, Harold Williamson and Jack Thomas.

Purpose of the hospital unit in time of national emergency is to staff and operate a complete fixed base Air Force hospital.

## Senate Subcommittee Offers Strong Support To B-58 After Review

"The B-58 is the only airplane presently operational which could fulfill (the requirement for a follow-on manned weapons system) in the near future — and lack of the availability of funds should not be utilized as a limiting factor in providing our Air Force with a technologically modern inventory of manned bombers."

This was the statement of the U. S. Senate Preparedness Investigating Subcommittee as they completed their review of the entire B-58 program for a report to the Senate Committee on Armed Services.

Emphasizing the continued need for manned bombers in the nation's deterrent force, the committee, headed by Texas Senator Lyndon B. Johnson, covered B-58 capabilities, history, production status, flight test program, growth potential, and finally made recommendations to the Secretary of Defense based on their findings.

In the subcommittee report, published last month in booklet form, there were cited "significant milestones" which occurred

in the three-year B-58 flight test program.

Among them were flights of 12-18 hours duration; from Seattle to FW in 80 minutes; four minutes to gear-up scramble; many pod drops at Mach 2; and launch of missiles at speeds up to Mach 2.

Considering the B-58's status as the first Mach 2 bomber, the committee reported the Hustler "in one giant step" achieved a greater speed increase over the previous fastest strategic bomber than was reached in the preceding 50 years of aircraft design and manufacture.

The subcommittee's report was based on information already contained in committee files, testimony taken from witnesses, and data supplied by the AF and Convair.

Members of the investigating group were John Stennis, Miss.; Stuart Symington, Mo.; E. L. Bartlett, Alaska; Styles Bridges, N. H.; Leverett Saltonstall, Mass.; and Margaret Chase Smith, Maine.

Kenneth E. Belieu was staff director.



IN OPERATION—Sheppard AFB was first Air Force installation to "buy" Convair's Components Automatic Programmed Checkout Equipment unit. Unit will assist in training future ballistic missile crew members. Gathered about are representatives of Astronautics, Convair Pomona and Air Force.

## Completed Missile Trainer Unit 'Sold' to Air Force at Sheppard

SHEPPARD AFB — Convair Astronautics operations here recently earned the distinction of being the first off-site Astro organization to "sell" to the Air Force a completed CAPCHE unit.

CAPCHE (Components Automatic Programmed Checkout Equipment) installations here were made in the new-missile training building.

The trainer unit was first assembled at Convair Pomona, then disassembled and shipped to Sheppard where it was added to a growing array of equipment to be used in training future ballistic missile crews to man Atlas-equipped operational bases.

CAPCHE is an advanced electronic programming system which will enable missile trainees to

check out missile components accurately and in a short period of time.

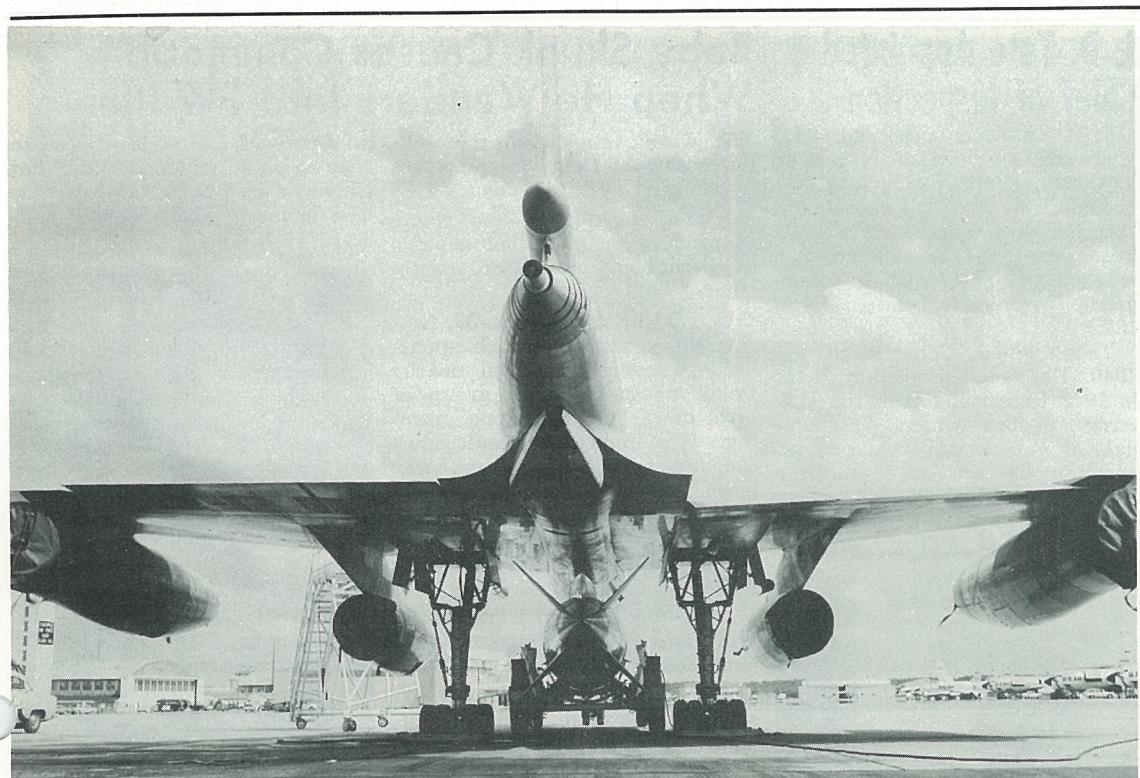
Following word of the "sell-off," Anthony Calman Jr., Astro's manager here, received the following wire from E. A. Reynolds, Astro's manager of product support:

"Congratulations to you and all associated personnel on the CAPCHE sell-off. Convair Astronautics Manager J. R. Dempsey also includes his congratulations for a job well done."

Astro forces here are installing equipment which will be used by the Air Force in conducting individual training for future ballistic missile crewmen. Sheppard AFB and Chanute AFB, Ill., will perform this vital training task.



"That's the last time I spend \$150 for a four poster bed!"



**DRAMATIC**—Photogenic B-58 is shown with pod riding in new positioning trailer. Responding to crew's commands, trailer raises pod into position for latching.

## Convair SD Builds its Own Balances For Wind Tunnel Test Model Use

Specialists in a specialized field are the men at Convair San Diego who design, build, and instrument the balances which go into every model tested in SD's wind tunnels.

The balances, of size and shape to fit model and type of test, measure the loads acting on control surfaces of aircraft or missiles represented by the models. By the microscopic strain gauges within the balances (microfilm so tiny it can hardly be seen by the naked eye), amount of various forces is transmitted to consoles of the wind tunnel instrumentation group.

Of a design developed by Convair experts, balances start as solid pieces of stainless steel. Experimental model shop and machine shop shape them to design specifications. They are then calibrated to high accuracy; all are within two per cent and many within one-tenth of one per cent accuracy.

All basic balances register components of air dynamic loads—normal force, pitching moment, side force and yawing moment, rolling moment, and drag.

Many have been designed and used for special test programs—man-seat and ejection seat mechanism, flaps, spoilers, and horizontal tails for both interceptor and transport programs. Another special project was design of a remote-controlled aileron used on a one-tenth scale model of the 880. Measurements were taken during the sweep through different angles.

Now in the works is design of balances to go into models to be submerged in Convair's hydrodynamics towing basin. This is the first effort for use on underwater models.

P. J. Mole, senior design engineer, brought to Convair as a balance design specialist, and E.

A. Collinge have designed and calibrated all strain-gauge balances for Convair SD low speed wind tunnel tests during the three years they have been built in the plant. Wiring is done under direction of Gene Droke of instrumentation group. All report to P. N. Bosch, supervisor of model design unit responsible for wind tunnel models.

"By designing and building our own balances," said Bosch, "we not only achieve more satisfactory test results, but are able to save many thousands of dollars. We can make our own at a third of the cost of sub-contracted balances."

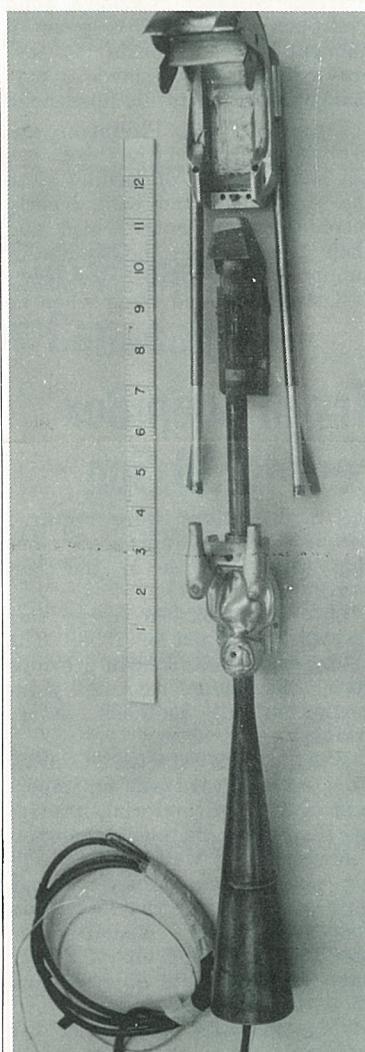
The cooperative effort has been used to build balances for other Convair operating divisions as well as other aircraft industries.

### Seven More Qualify For 'Pro' Standing With State Exams

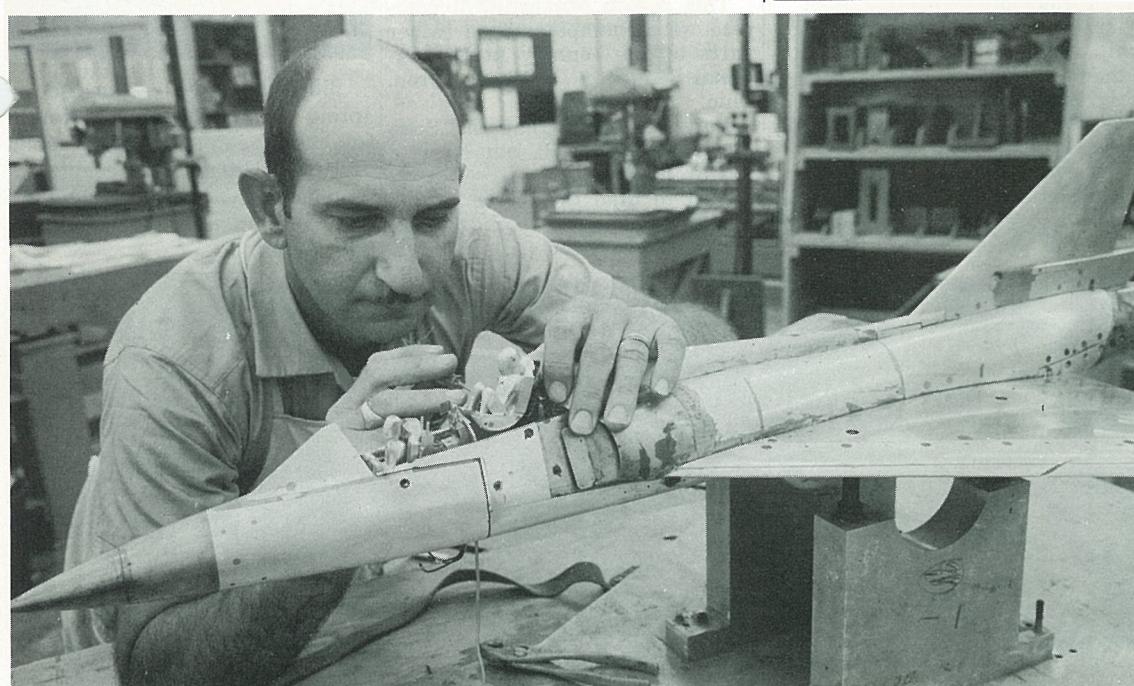
Seven Convair men, five from Astronautics, two from Convair San Diego, have passed a written examination for registration as professional engineers in California.

Four passed the mechanical engineering exam. They are Robert V. Jaeb (Dept. 6-02 SD), Carl G. Johnson (Dept. 595-1 Astro), Henry T. Iida (Dept. 595-1 Astro) and Richard N. Franklin (Dept. 565-4 Astro).

Frederick L. Heid (Dept. 547-2 Astro) and Donald N. Mareen (Dept. 6-03 SD) passed electrical engineering exams, while Norman P. Langley (Dept. 604 Astro) passed the civil engineering test.



**CLOSEUP**—Shown is man-seat balance for F-106 wind tunnel model.



**BALANCED**—P. W. Greenhaw, Convair SD model builder, puts finishing touches on man-seat balance, one of many delicate instruments designed and built at Convair SD for use in wind tunnel tests.

## Novel Trailer Designed To Place Pod in Position For Attaching to B-58

A versatile positioning trailer and a control box no bigger than a basketball are used to load pods on B-58 Hustlers.

These and other unique equipment, specially designed to criteria set by Convair FW engineers, are now being used on limited scale at Carswell AFB.

The B-58's "super blockbuster" pod requires special handling, for it is 57 feet long and 5 feet in diameter. Empty it weighs approximately 2,500 pounds—well under the 15,000-pound capability of the trailer.

Perfection of a new positioning trailer enables crewmen to move the pod from storage to plane, virtually untouched by human hands.

In "storage" the pod is housed on a work stand with uniform width rails. A mobile transport trailer, also equipped with rails, "ties into" the work stand, and the pod is rolled onto the trailer.

The transport trailer is used to tow the pod long distances—particularly in the field. From transport trailer, the pod is shifted to the positioning trailer—again by rail—and this five-foot tall workhorse executes the delicate job of placing the pod precisely in place under the slender B-58

fuselage.

Equipped with uniform rails so that a pod can be transferred from either work stand or transport trailer, the positioning trailer has an electrically driven hydraulic system for raising the pod.

A four-man crew is used to "guide" the trailer, which has four-wheel steering.

Three strategically located crewmen equipped with intercoms serve as guides for the crew chief who "steers" the pod into position with his control console.

Actually, this little cubic foot control box, strapped around the crew chief's neck, does most of the "work." A control stick on the console enables the crew chief to move the pod in six ways—up and down, forward, lateral, pitch, yaw, and roll. J. K. Jopling, senior design engineer, who has monitored development of pod handling equipment, explained.

Convair and Carswell AFB personnel conducted an engineering evaluation test of the new equipment recently and Bob Cole, assistant project engineer, reported the Air Force review was quite favorable, with only minor changes suggested.



**ADJUSTABLE**—In lower photo, crew chief at right operates "hand organ" control box by which he can raise B-58 pod at will. He is in communication with other crewmen, stationed at strategic points.

## Hall of Fame Suggestion Display Placed in FW Aisle Showcase

A "Suggester's Hall of Fame" is being put on display in a factory aisle showcase at FW.

Photographs and cumulative suggestion records of 15 Convair employees will comprise the layout, scheduled to be on display for two weeks.

Convair FW's five President's Award winners are included in the Cost Improvement Proposal group. Winners and accumulated installed savings are: L. R. Parvin, Dept. 7, \$242,533; W. E. Mitchell, Dept. 35, \$66,912; A. F. Drysdale, Dept. 23, \$175,930; T. F. Paniszczyn, Dept. 6, \$64,360; C. W. Doyle, Dept. 22, \$117,026.

Also included in the display are 10 outstanding Employee Suggestion contributors and their cumulative installed savings. They are: W. E. Doom, Dept. 4, \$15,415; L. D. Howton, Dept. 64, \$15,787; W. A. Hokett, Dept. 74, \$48,450; F. M. Mason, Dept. 27, \$21,233; B. M. Crawford, Dept. 27, \$25,829; D. L. Campbell, Dept. 75, \$27,567; J. R. Moran, Dept. 6, \$28,027; J. D. Keel, Dept. 21, \$32,688; Joe Rozina, Dept. 30, \$32,792; and D. C. Hill, Dept. 22, \$29,675.

The display will be entered later this year at the National Association of Suggestion Sys-

tems convention in Philadelphia, according to M. J. Scott of suggestions.

"Convair FW won the best-display award at last year's gathering in St. Louis," Scott added.

## Writer Given Mach 2 Ride

N. R. Erman last month was the first Convair SD service publications writer to make a supersonic flight in an F-106 from Palmdale, Calif.

Three more SD writers, all associated with compilation of F-106 flight manuals, will be making Mach 2 flights in F-106Bs within the next few weeks. They are C. M. Keys, J. D. Meacham, and T. S. Cope, all of Dept. 15-6. The flights are planned to give them a first-hand feel of the plane and acquaint them with its operating systems as background for their writing task.

Erman, former Navy pilot during Korean war years, said his Mach 2 flight was effortless compared to breaking the sound barrier in earlier jets. Then they had to dive at full power to attain Mach 1 speeds.



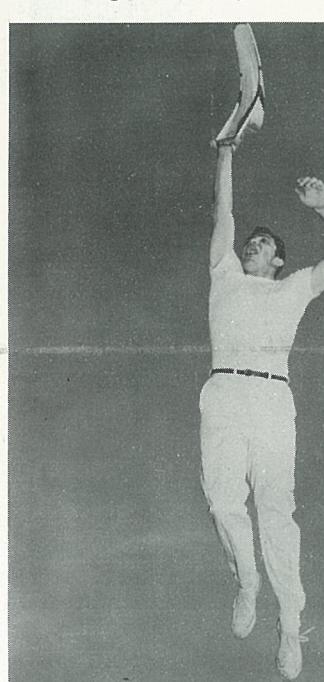
**HIGH HOPES**—Ron Bales (SD Dept. 400), left, and John Gilardo (SD Dept. 180) try to cram cestas in suitcase in anticipation of receiving backing to play in Amateur Jai Alai Championships late this month in Acapulco. If they make it, they'd be first players from U.S. ever entered.

#### Acapulco Bound?

### After Two Years of Practice, Jai Alai Players Eye Tourney

With luck, two Convair SD men will be the first representatives of the United States ever to compete in the Amateur Jai Alai Championships late this month in Acapulco, Mexico.

John A. Gilardo (Dept. 180) and Ron Bales (Dept. 400) are something of a rarity in the U.S.

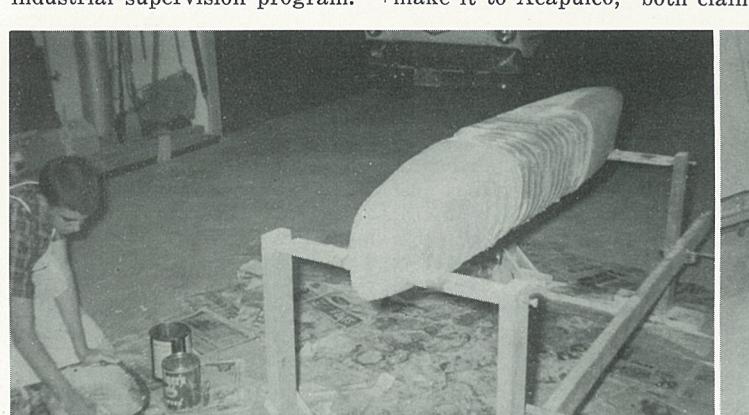


**FINE FORM** — John Gilardo (SD Dept. 180) flashes jai alai form, result of more than two years practice in Tijuana Fronton. Photos were snapped by Convair SD photographer O. W. Rollins.

#### Corrosion Is Subject Of Technical Paper

E. I. Weed, process engineer, Dept. 6, at Convair Pomona, presented a technical paper on corrosion at the July 25 session of the 47th Annual Convention of American Electroplaters Society at the Statler Hotel, Los Angeles.

Weed has been employed at Convair since 1951 in the field of corrosion protection, sealants and structural adhesive bonding. He is a graduate of Chaffey College and is presently teaching evening school at Chaffey College in the industrial supervision program.



**STEPS TO SUCCESS**—Richard Brown (son of Convair SD's R. H. Brown, Dept. 160) spent many months perfecting racer he rode to victory in San Diego Soap Box Derby last month. Construction cycle is well along in left photo with plaster form almost completed. Floorboard and axle trees are already incorporated. In

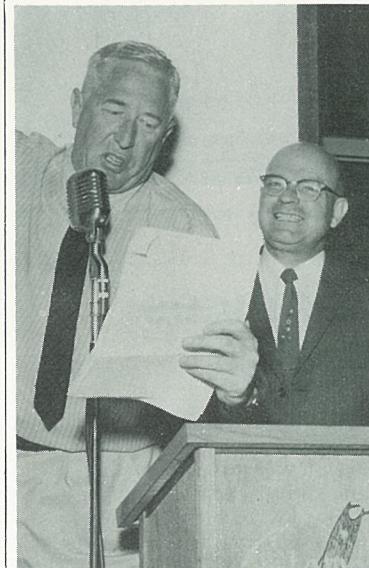
### J. D. Tate Appointed Chief of Inspection

J. D. Tate has succeeded H. L. Anderson as chief of inspection at Convair Palmdale facility.

Anderson, who had been in inspection at Palmdale since 1956, has transferred to Convair San Diego as chief of quality assurance-electronics in the new Dept. 187.

Tate joined Convair SD in 1940. He was on military leave in 1942-43, serving with the U.S. Army. Before coming to Palmdale as general supervisor of inspection he was an inspection supervisor at San Diego.

He is current treasurer of Convair Antelope Valley Management Club.



**FINE FELLOW**—C. W. Greaves (right), SD manager community and public relations, received Mug of Month and good-natured ribbing at Management Club meeting last month. D. C. Wilkens, industrial relations manager, made presentation.

#### Close Squeek

### Fifth—and Last—Try in Soap Box Brings Sweet Success to SD Son

It took exactly 27.19 seconds for a lanky 15-year-old Convair SD son to win the championship heat of the 1960 San Diego Soap Box Derby last month.

But shortly before race time it appeared that more than five years of planning, effort and determination would be wasted for Richard Brown (son of R. H. Brown, Dept. 160). Richard and his racer weighed nearly two pounds over the 350-pound maximum and faced disqualification!

Richard solved half the problem by yanking a one-pound iron-wood weight block off the racer. Then he started to run around the derby track. Half an hour later when the breathless youth and his racer were weighed again Richard had managed to work off a pound of his own weight.

The championship was doubly sweet for the six-foot, five-inch Convair son who was making a last stab for a Soap Box victory after four previous tries.

In addition to the championship award Richard received another for the racer with the most original construction, and according to his dad, that's exactly what it was: "original."

Except for a new top and some modifications the racer was the same one Richard drove in 1959 when he placed fifth. Some of

### Baby Skunk Causes Commotion When He Wanders Into FW Plant

It wasn't any lamb that followed several Dept. 33 employees to work recently at Convair FW!

It was a skunk — too young to produce an odor, but capable of producing plenty of excitement.

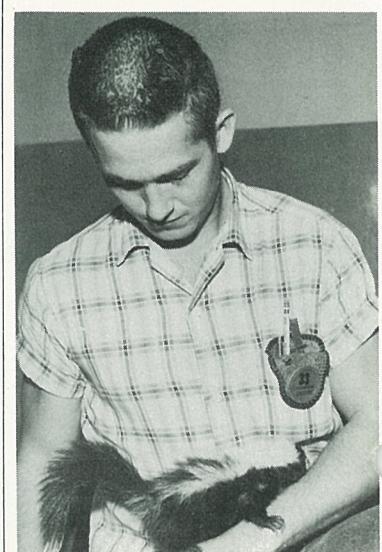
G. W. Christian, Dept. 33, first saw the youngster, which apparently wandered in from nearby fields, as it trailed a group of girls down "C" Aisle one morning. The immediate result when the ladies saw the skunk was mass confusion. But Christian solved all when he picked the animal up, dubbed him "Pierre," and announced he would take him home.

After a \$15 deodorizing, Christian plans to keep the skunk as a household pet.

A co-worker, C. K. Thomas, assistant foreman in Dept. 33, happens to be an ex-skunk raiser. From him Christian learned that deodorized skunks make most affectionate pets. They cannot produce odors until they are six or seven months old, and their favorite meal is any kind of dog food.

"In fact, they are so easy to

take care of and so much fun to keep as pets," Thomas said, "that I always used to get at least one new skunk a year for my children."



**"PIERRE"** — G. W. Christian, FW, pets baby skunk he named "Pierre" after adoption. Youngster followed Dept. 33 girls to work, unbeknownst to them.

### Tame Jay Knows a Good Thing; Relies on Friend to Feed Family

When Convair Pomona's John Philippon (Dept. 25) gave a handout to a California jay several months ago he made a permanent addition to his household.

"Moocher," as Philippon appropriately named the bird, has not missed a day of feeding since the first visit, and has recently introduced the mother bird and their fledgling to the source of supply.

Knowing a good thing when he

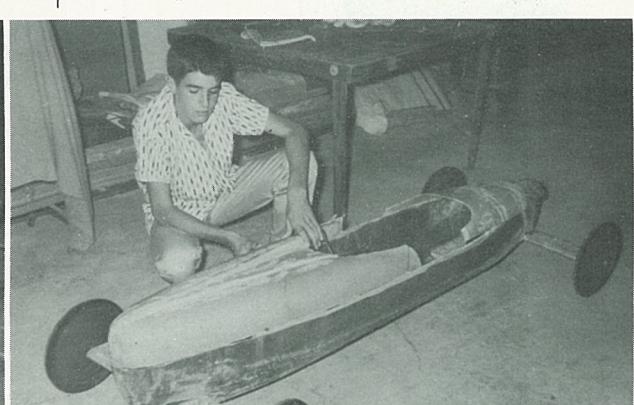
finds it, Moocher guards his domain with the eye of an eagle, and quickly drives away all other birds who show up on the scene. Although the jay is friendly with most people, he cautiously waits for Philippon's command before he flies down to meet a new acquaintance.

He is much like a human in one respect, according to Philippon. When given a choice of foods, he almost always selects the delicacies. He prefers walnut meats to the usual offering of bread or bananas.

"Humans might well take a lesson from Moocher, however, when it comes to providing for a rainy day," Philippon added. "With an eye out for the future, the bird will shrewdly hide extra morsels between blades of grass and hide the spot with a leaf. Hidden provisions can also be found under shingles on the roof and other well chosen spots in the yard. One thing's for sure—he and his family won't go hungry."



**BIRD IN HAND**—Since early spring "Moocher," California jay, has been member of John Philippon family, especially at mealtime. Getting acquainted with feeding ritual is Philippon's son, Loren.



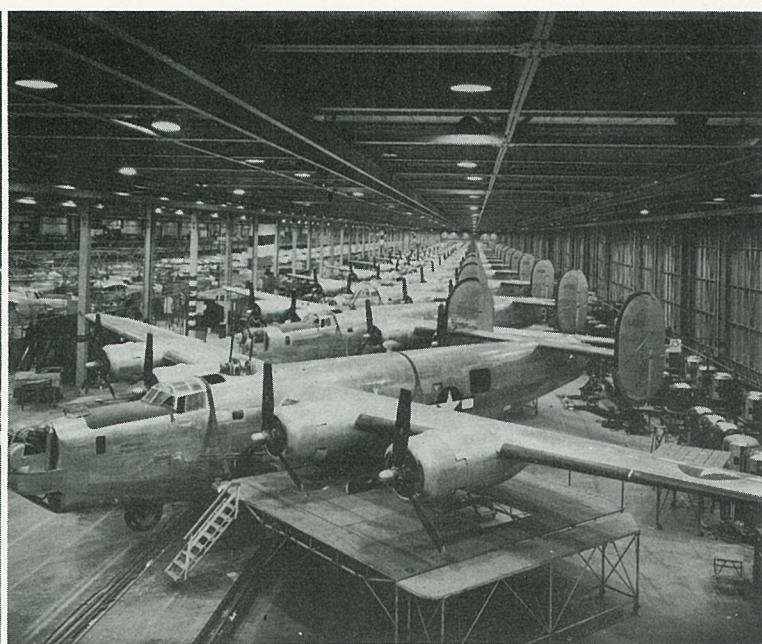
**center photo** fiber glass body has been pulled. Paraffin was used for parting compound. At right is sleek shell completed, after five coats of black resin and more than a dozen doses of lacquer. He first started construction of racer two years ago; drove it to fifth place last year; modified it for 1960 event.



WAR DAYS—Above are PBY and B-24 assembly lines at San Diego during war time when Consolidated was making heroic efforts to supply Air Corps and Allies.



In center, President Roosevelt and party drives through building as two employees peek from fuselage of PBY.



## NEWS FROM OTHER DYNAMICS DIVISIONS

General Dynamics Corporation, created in April, 1952, as successor to Electric Boat Company, is composed of seven divisions and a Canadian subsidiary, Canadair Limited, of Montreal, airframe builders. The divisions are:

Convair, head offices at San Diego, Calif., aircraft, missiles, and space systems.

Electric Boat of Groton, Conn., submarines.

Stromberg-Carlson, of Rochester, N. Y., telecommunications, electronic equipment.

Liquid Carbonic of Chicago, Ill., carbon dioxide producer, industrial and medical gases.

General Atomic of San Diego, Calif., nuclear research, development, production.

Electro Dynamic of Bayonne, N. J., electric motors, generators.

Material Service Division, Chicago, Ill., building materials, concrete products and coal.

\* \* \*

## Last of CL-28 Anti-Sub Planes Delivered to RAF by Canadair

MONTREAL—A phase of Canadian and NATO defense neared completion this month when the last of 33 CL-28 "Argus" anti-submarine airplanes emerged on schedule from the final assembly line at the plants of Canadair Limited here.

Like its 32 predecessors which have been rolling out of Canadair since 1956, it will join the Maritime Air Command of the Royal Canadian Air Force to protect

Canada and her NATO allies from seaborne attack against shipping and from submarine-launched missile bombardment of coasts and inland cities.

The CL-28s, christened "Argus" by the RCAF for the 100-eyed monster of mythology, has frequently been credited by international authorities with being the world's finest weapon system to guard against undersea attack. Capable of extremely long range, it was designed to carry out reconnaissance over vast areas of ocean and to detect, locate and destroy enemy submarines.

### Stromberg-Carlson Gets AF Business

ROME, N. Y.—The directorate of procurement and production at Rome Air Materiel Area, has awarded Air Force contracts totaling \$956,425 to Stromberg-Carlson.

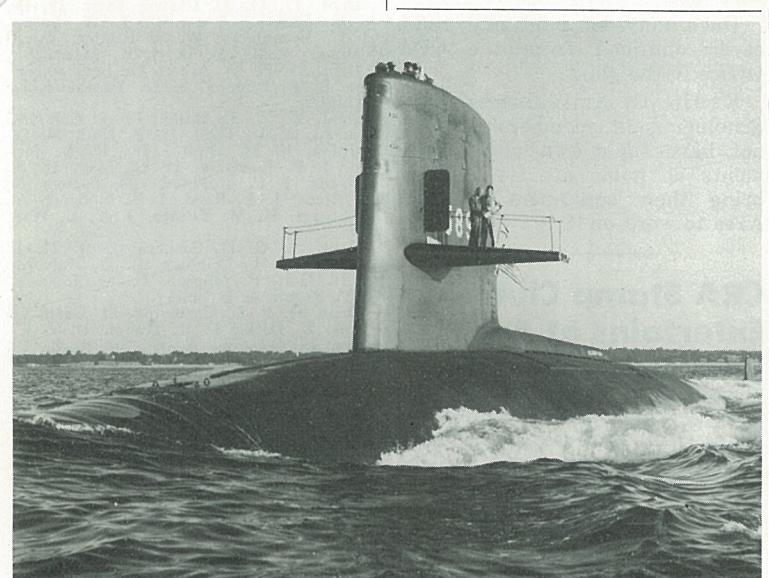
One contract, for \$895,425, is for a 3,000-line telephone system at Eglin AFB, Fla., and a 5,000-line telephone system at Andrews AFB, Md.

The other contract is for \$61,000 and is for a 600-line addition to an existing telephone system at Cape Canaveral.

### NUCLEAR SUBMARINE NO. 12 COMMISSIONED

GROTON—Rear Adm. Lawson P. Ramage, director of anti-submarine warfare division, Office of Chief of Naval Operations, was principal speaker at commissioning July 29 of the nuclear-powered attack submarine Scorpion. She is the first sister-ship of the USS Skipjack, fastest sub in the Fleet.

The Scorpion was commissioned at 10 a.m. at her builder's dock at Electric Boat Division. Featuring the same cigar-shaped hull as Skipjack, Scorpion is the Navy's 12th commissioned nuclear-powered submarine, eight of them products of Dynamics' Groton shipyard.



NEWEST—Nuclear-powered Scorpion, shown on maiden voyage, with Vice Adm. H. G. Rickover on sailplanes with Cdr. J. F. Calvert, was commissioned last month at Groton.

### War Giant

## Consolidated SD Home Plant Top Producer

(Following is installment No. 40 in Convair's continuing history of Convair. Its author, Howard Welty, now of General Office Dept. 1-41, calls period covered by next several issues "The Wartime Giant.")

When the attack on Pearl Harbor drew the country fully into the war in December, 1941, the airframe industry was far advanced on its first phase of expansion, enlargement of plants already in existence. Consolidated's payroll, only 6,000 when President Roosevelt called for production of 50,000 planes a year in May, 1940, had passed the 30,000 mark. Vultee Field's work force had grown from 2,500 to 6,000. The year 1942 brought the expanded plants into full production and saw completion of such new facilities as Consolidated at Fort Worth and Ford at Willow Run.

As production tempo mounted, problems in manpower, materials and general congestion multiplied. For the overgrown Southern California aircraft industry, additional expansion had to be achieved elsewhere—by establishing a modification center in Arizona, or converting an empty Pennsylvania truck factory into an airplane manufacturing plant. After formal merger of Consolidated and Vultee in March, 1943, Convair comprised a structure of 13 manufacturing, modification, research and operating divisions in 10 states. Combined payroll reached a peak of 101,637 late in 1943.

Among all Convair plants, the big home factory at San Diego was the heaviest producer. In the period from Jan. 1, 1941, through Sept. 30, 1945, San Diego delivered 235 million lbs. of aircraft and spare parts. This amounted to 8.2 per cent by weight of the entire output of some 70 U. S. and Canadian plants that manufactured aircraft for the Air Force, Navy and

### Order For Two Subs Placed

GROTON—Award of contracts for two ballistic missile submarines to General Dynamics Corporation last month marks the third generation of missile submarines to be designed and built by Electric Boat Division.

Both submarines are designated as the SSB(N)616 class.

The contracts bring to six the total missile submarines awarded to Electric Boat since the Polaris submarine construction program began in late 1957.

The first missile subs, USS George Washington and USS Patrick Henry, were both delivered to the Navy less than two years after construction was begun.



FEEDERS — Space limitations forced Consolidated to set up "feeder shops" that fed parts to main plant. In top photo women at Coronado, Calif., sort rivets, while below is shop set up in former garage at Laguna Beach, Calif., for electric harness production.

Allied governments during World War II.

By the summer of 1942, Chairman Tom Girdler had pushed San Diego's potential well beyond the government's ability to supply parts and materials, Fortune magazine reported in September. "This has been the result of introducing a straight-line production system, of pushing more and more final assembly back into subassemblies, of patient worker education, of introducing incentive bonuses, and of delegating authority," the magazine stated.

Peak output was reached in January, 1944. During that month assembly lines delivered 253 Liberator bombers, 74 Catalina flying boats, and the first production model of the four-engine Coronado flying boat.

In 1940 subcontracting accounted for only 10 to 20 per cent of the airframe industry's output, but manpower and space shortages brought broad changes, starting in 1942. By 1943, Convair San Diego was building B-24s with parts received from nearly 100 subcontractors, fabricating such normally factory-made items as horizontal and vertical stabilizers and bomb bay doors. At Convair Fort Worth, it was estimated 40 per cent of fabrication on bombers and transports was performed by subcontractors who shipped millions of pounds of parts to the plant monthly.

Feeder shops, another means of "taking the work to the laborer" came into widespread use. The system was inaugurated at Convair SD in December, 1942. By early 1944 the plant had a network of 11 feeder shops in California cities

up to 130 miles distant from San Diego, employing 1,700 of whom 90 per cent were women.

Headquarters for the system was in Santa Ana where three shops were situated. Raw materials were distributed from there and finished parts collected for delivery to San Diego. Typical feeder shop products included bulkheads, electrical harnesses, sheet metal subassemblies, plexiglass moldings, and most of the upholstery going into B-24s. At Coronado, Calif., across the bay from San Diego, one shop specialized in sorting rivets swept up from plant floors.

Employment at San Diego remained close to 45,000 from the summer of 1942 through April, 1943. It dropped slowly to 35,000 over the next two years, then beginning in May, 1945, shriveled away until only 3,760 remained on the payroll at the end of the year.



## Convair FW Golfers Crowd Local Public Links As Dates for Plant-Wide Tournament Approach

Convair golfers have been crowding local public links recently, practicing for the annual plant-wide tournament, set to begin Aug. 13.

Hoping to unseat last year's champ, Fred Hopton-Jones, over 100 players are expected to register. Entries are open in CRA office on the 50-foot aisle until 4:30 p.m. Aug. 8.

Entry fee is \$2.50 plus green fees. Sporting merchandise will be offered as prizes for first four places in championship and first flights and for winner and runner-up in all other flights.

All flights will end Sept. 11,

winners will be named and prizes will be distributed.

First step in registration is turning in handicap to CRA Office. Many registrants already have a handicap established with CRA. Those who don't can set one by turning in three current 18-hole cards.

(A standard handicap — used by CRA—is  $\frac{3}{4}$  the difference between your score and par. For instance, if you shoot 90 and par is 70,  $\frac{3}{4}$  the difference (20) is 15. So your handicap is 15.)

After all entries and handicaps are in CRA Office, flights will be arranged with owners of

the low 32 handicaps comprising medal players — championship and first flights.

These 32 will be divided into championship and first flights: on Aug. 13 and 14 all 32 will play 18 holes; results will determine which 16 are placed in championship flight to compete for plant championship—the other 16 will comprise first flight.

First flight winner will be named on basis of scores made on Aug. 20 and 21. Championship competitors will play then too, but their Aug. 13 and 14 scores will also be tallied to determine over-all winners.

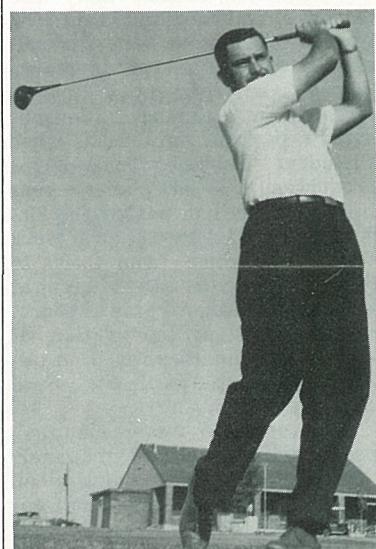
All games for these two flights must be played at one of four selected public courses—Z. Boaz, Worth Hills, Rockwood, or Meadowbrook.

All other lower flights — 16 persons to a flight — will be match play with one match to be played each week. Any course will be acceptable, and matched players will be allowed to select their own link preferences.

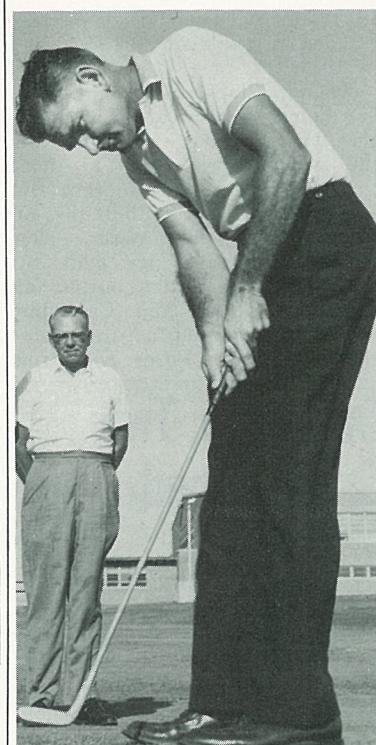
Results must be reported to CRA Office by noon on Monday of each week. Losers in first round of match play will continue in consolation flights.

### Is It News?

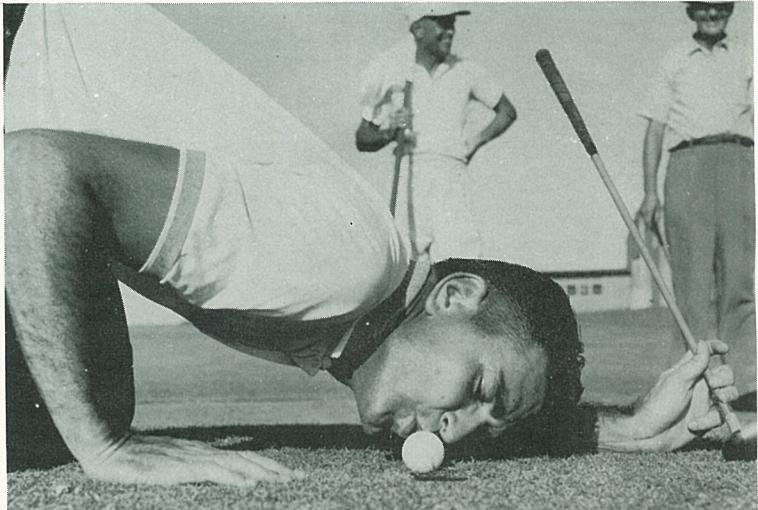
Is it news? Then grab a telephone and call Convairity



**SWINGING** — Practicing form that won him plant golf championship last year is Fred Hopton-Jones, Dept. 6-2. He's shown at Z. Boaz municipal course, one of four he played last year during tournament that earned him title.



**PRACTICE PUTT** — Wendall Waddle practices with putter in preparation for CRA plant-wide tournament. Watching is Lawrence Armstrong, CRA golf commissioner, who is handling arrangements for tourney.



**WHO-O-O-SH** — One way to make "short-short putt" is demonstrated by Wendall Waddle as he tries to blow ball into hole. Incidentally, this will not be acceptable method in upcoming CRA tournament.

## Indians Win Little League Title; Teeners Take Crown in JABA

The Indians romped over the Eagles two straight games, 10-6 and 15-4, last week to win the CRA Little League championship.

Managed by C. F. Holder, the Indians won first-half play in Little League. Next step will be district playoffs at Benbrook this week.

Aug. 4-6 are district playoff dates for Teeners, CRA-sponsored winners of the Fort Worth Junior Amateur Baseball Association League. Games will be at Rockwood Diamond No. 1.

Teeners, one of two CRA teams in the league, scored a 14-won, one-lost seasonal record. E. J. Seilheimer is manager of the team. Coach Dixie Walker and T. H. Moore are assistants.

As Convairity went to press,

### Gene Shelton's Plunge At Possum Kingdom Wins Free Dive Meet

Under direction of CRA Skin Diving Secretary Billie Huddleston, divers participated in a "free dive" (without breathing apparatus) contest at Possum Kingdom Lake. They climaxed their day in the water with a picnic supper.

Gene Shelton's 44 1/4-foot dive was deepest of the day. Also notable was a 40 1/4-foot dive made by 16-year-old Billy Ellis.

Dive depths were recorded when divers clipped a clothespin to a rope at the deepest point in their dive. The weighted rope had been suspended from a floating inner tube.

### Dollar Yearly Dues Begun by CRA Hams

Assessment of \$1 dues a year was incorporated into the by-laws of the CRA ham radio club at its last meeting. First year dues have been allocated for purchase of new test instruments leading toward eventually setting up a work bench for members' use.

Dues may be paid and radio cards obtained from the CRA Office in the plant.

Radio Commissioner Max Schelper said members who do not have their own test instruments at home are welcome to bring their equipment to CRA Area to work on it.

CRA's Rockets stood a chance to tie for the championship in Sophomore League. They were one game away, with a match with the league leaders still remaining.

### Warm-up Clinic Set For Bird Hunters

A warm-up shotgun clinic will be held 9 a.m.-1 p.m. Aug. 20 and 27 for CRA hunting and fishing activity members at Fort Worth Gun Club skeet and trap range.

Winchester Representative Jim Stotz will be on hand to offer advice and instruction to the marksmen, as they get ready for bird season.

Hams will be given as prizes to top scorers, says Hunting and Fishing Commissioner Bill Parrish.

### The Passing Years

Fort Worth

The following emblems were due during the period August 16 through August 31:

Twenty-year: Dept. 6, B. D. Doane, E. G. Harborne; Dept. 7, F. E. Williams; Dept. 22, J. H. Braunt Jr.; Dept. 57, W. R. Williams; Dept. 64, S. P. Jones; Dept. 85, C. H. Stanley.

Fifteen-year: Dept. 3, P. W. Bennett;

Dept. 4, J. L. Goodwin; Dept. 21, C. W. Check; Dept. 22, G. S. Dailey, R. M. Duran Jr.

Dept. 24, J. N. Banks, J. C. Breitenstein, M. F. Pound, E. B. Schick, J. E. Worth Jr.

Dept. 27, H. P. Conway, R. Gunter, J. B. Lee, D. Shipp; Dept. 55, S. E. J. Levisie.

Dept. 81, E. F. Boatman, G. A. Edwards, O. F. Harris, J. N. Marple, M. O. Murphree; Dept. 82, C. J. Baker; Dept. 94, J. C. Wright.

Ten year: Dept. 3, F. Q. Croft, L. P. Pickle; Dept. 4, E. W. Austin, J. E. Buffington, W. E. Burress, M. T. Cleveland, W. M. Colvert, A. L. Harper, A. J. Harris, J. C. Hunter, M. W. Jordan, D. L. Locke, J. V. McDonald, V. E. Roetske, T. R. Runkle, N. L. Spencer, L. O. Terry Sr., H. O. Todd.

Dept. 6, C. L. Haney, R. C. Matteson, J. M. Pankonien, L. H. Pool, J. O. Roark, J. C. Roberts, O. N. Shelby, J. H. Trimm, N. F. Watson.

Dept. 11, W. E. Dahl, D. F. Probst; Dept. 14, S. S. Samuelson; Dept. 15, R. L. Ansley, E. F. Cox Jr., B. L. Doyle, M. O. Eidson, B. C. Gibbs, J. G. Oswald Jr., M. Rushing, H. V. Smith, A. E. Worley, D. L. Yaeger, E. E. Young.

Dept. 17, O. L. Carter; Dept. 19, D. A. K. Calvert; Dept. 20, J. W. Ensey, C. L. Humphries, W. S. Hunter, T. J. Jennings, J. B. Martin, J. K. Meredith.

Dept. 21, H. D. Armes, C. J. Chamberlain, L. E. Dickson, S. G. Matthews, R. P. Miller.

Dept. 22, T. L. Busby, D. J. Cole, A. Croteau, A. D. Ford, H. B. Hall, N. D. Harmon, B. M. Hunter Jr., R. L. Jordan, J. P. Lumpkin, D. G. May, H. S. McDade, J. F. McMahon, D. Parten, T. C. Pierce, J. L. Reed, J. T. Rodgers, A. D. Staggs, H. M. Tucker, J. V. L. Wallace.

Dept. 23, G. D. Gibbons; Dept. 24, J. R. Beall, C. L. Dunham, L. D. Halyard, H. H. Holt, F. Johnson, H. M. Johnson, R. V. Regan, A. E. Snider.

Dept. 25, F. L. Covington, O. Dean, C. Evans, L. Hicks, F. R. Hunnicutt, T. C. Mays, L. Osborne, A. W. Smith, R. G. Smith, H. C. Teal, F. Walker, C. D. White.

Dept. 27, R. H. Buckner, R. B. Cooper, V. Laird, D. E. Menger; Dept. 28, M. Kelly, C. A. Watson Jr.

Dept. 30, P. F. Bray, P. A. Dempsey, J. Edwards, W. K. Gardner, C. O. Johnson, J. D. McKinney, L. T. Moore, R. C. Schiffert.

Dept. 35, A. F. C. Culbert, R. E. Saunders Jr.; Dept. 36, J. N. Baldauf, H. Nelson, C. W. Wagstaff, H. F. Wheeler.

Dept. 73, E. Johnson; Dept. 74, E. R. Frazier; Dept. 75, E. A. Daniels, R. C. Gunter, L. E. Henry, L. L. Hudson, C. A. Loggains, E. L. Price, J. L. Tallis.

Dept. 81, W. B. Cook, J. M. Henley, J. A. Myrick, L. R. Tyus; Dept. 89, R. E. Curda, B. E. Luckett, J. T. Ramsel.

## Log Book Entries

### Promotions

Fort Worth

Promotions to and within supervision, professional and administrative effective July 18:

Dept. 4: to buyer-senior, R. A. Rader; to cost analyst, J. B. Clark; to material cost control analyst, K. D. Gentry, W. H. Moore.

Dept. 6: to assistant project engineer, W. L. Zant; to design engineer, A. Baker, D. G. Chamberlain, K. W. Hargus, F. C. Heizman, C. R. Porter, H. D. Tucker, A. G. Turner Jr.; to design engineer senior, R. J. Lysiak, W. E. Mahurin Jr.; J. C. Ratliff; to engineering writer, L. J. Crum, R. V. Harriss; to propulsion engineer, L. H. Pratt.

Dept. 7: to factory special assignments man, W. S. Snider Jr.; Dept. 11: to contract analyst A. W. C. Beck, R. G. Smith.

Dept. 17: to engineering illustrator, J. L. Phipps; Dept. 18: to senior price estimator, V. B. Jones; Dept. 20: to shipping assistant foreman, G. H. Squires.

Dept. 54: to assistant foreman, E. G. Duff; Dept. 64, to field operations supervisor, J. E. Barnett.

Dept. 65: to assistant foreman, L. A. Orrell, K. R. Sanders; to assistant general foreman, E. L. Tucknies.

Dept. 81: to tool manufacturing assistant foreman, L. M. Chaffin; Dept. 82: to tool manufacturing foreman, E. H. Splits; Dept. 96: to assistant foreman, D. L. Marshall, D. E. Williams.

### Awards

The following received Employee Suggestion awards totaling \$1,222.20 for the period ending July 11:

Dept. 4, G. S. Merritt; Dept. 6, J. W. Trimble; Dept. 10, G. B. Owen; Dept. 11, J. L. Shen.

Dept. 21, A. C. Henderson Jr.; Dept. 22, J. C. Perry; Dept. 24, J. W. Chidress; Dept. 25, V. A. Neel, L. M. Vaughn, M. C. Young.

Dept. 27, B. P. Taylor; Dept. 29, W. V. Carlin; Dept. 35, G. L. Botkin, O. C. Keener, A. M. Haigood, F. M. McGee, R. Mills, O. T. Wicker.

Dept. 41, S. T. Rankin; Dept. 54, L. L. Edgar; Dept. 58, H. A. Mays; Dept. 75, F. C. Conwell, W. T. Yawn.

Also E. A. Johns, formerly of Dept. 27 and K. J. Corwin, formerly of Dept. 93.

### Retirements

BERRY—C. H., Dept. 82, Seniority date April 2, 1942 (FW), retirement effective July 15, 1960, Tremont, Fort Worth, Texas.

HALLADAY—A. D., Dept. 22, Seniority date August 24, 1948 (FW), retirement effective August 26, 1960.

## Convairity

First Place Winner  
International Council of Industrial Editors

Founded Sept. 1, 1948. Published in six editions (Fort Worth-Daingerfield, San Diego, Pomona, Astronautics, Mail Edition and Antelope Valley-Holloman) by Convair Industrial Relations, General Offices, San Diego, Calif., Logan Jenkins, editor. Approximate current total circulation, over 65,000. News items and letters to the editor are solicited, but no advertising can be accepted.

SD Editorial Offices, Building 32, Plant 1, ext. 1071. Staff: Grace Fath, Helen Pemerton, Fred Bettinger.

FW Editorial Offices, Col. 73-C, Ext. 2961. Mailing Address: Convairity, Convair, Fort Worth, Texas. Telephone PE 8-7311. Staff: Dave Lewis, Fort Worth editor; Susan Tilley, Mary Beck.

Astronautics Editorial Offices, Bldg. 2, new plant, ext. 1154. Staff: Bryan Weickschimmer, Astronautics editor; Bill Harwood.

Pomona Editorial Offices, Room K-222, Bldg. 2, ext. 6226, mail zone 3-8, Staff: James Combs Jr., Pomona editor; Dorothy Keller.

Palmdale Editorial Offices, Room 103, Bldg. 301B, Palmdale, ext. 337. Staff: Betty Lou Nash.

## Go Karters Pick K. O. Capehart For Outstanding Sportsmanship

K. O. Capehart was presented a special Sportsmanship Award by CRA Go Kart activity for "displaying outstanding sportsmanship at all times and under all kinds of conditions."

He was selected by a secret committee which has been observing the group's bi-weekly races for the past three months.

Jerry Levisee swept the field in the last Sunday afternoon races, taking first in Men's Fast Car Race, Men's Trophy Dash, Men's Australian Pursuit and Feature Race.

Capehart won Men's Second Heat Race, while F. G. Bramlett was winner in Men's Third Heat Race. Handicap Trophy Dash laurels were taken by W. C. Allmon.

Juanita Allmon and Earlene Edens split honors in women's division races. Mrs. Allmon won

Ladies' Heat Race and Ladies' Australian Pursuit, while Mrs. Edens took Ladies' Trophy Dash and Ladies' Fast Car Race.

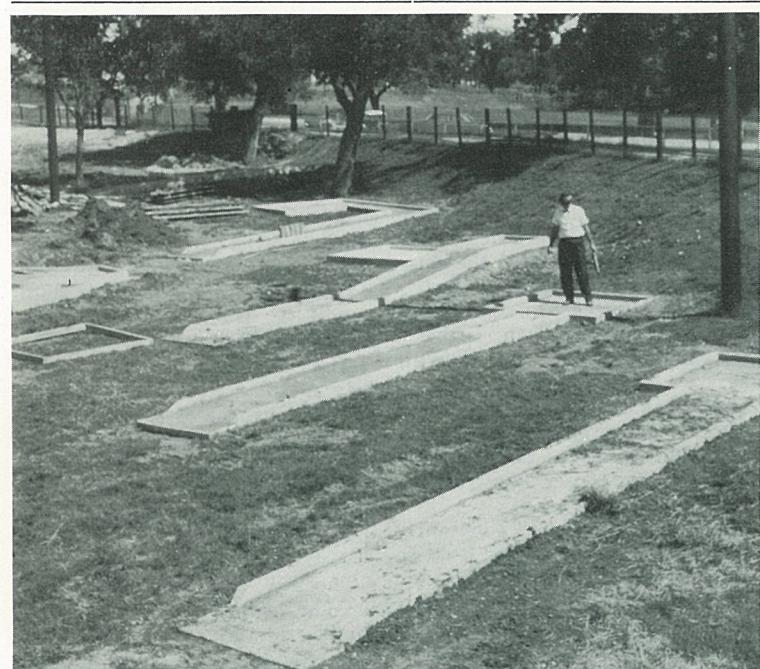
Bobby Heist repeated as winner in Boys' Australian Pursuit and Trophy Dash, and Rickey Allmon won Boys' Heat Race.

### Record Breaker Is CRA-Sponsored

Ric Massie, CRA - sponsored soap box racer, won two prizes in the recent Fort Worth Soap Box Derby.

His 23-second heat time set a FW soap box record and earned a \$25 savings bond for young Massie. For scoring the best heat time in the "B" division he received a baseball glove.

Ric is the son of J. R. Massie, Dept. 6-5.



**PUTTING GREENS**—C. J. Hall, CRA business manager, surveys set-up for miniature golf course, scheduled to open this month at CRA Area. The 18-hole course, located near miniature train ride, will be open during regular hours.

## New Champs Named As Season Winds Up

"Liaison" and "Aerodynamics" teams claimed championships in Tuesday and Thursday night Engineering Softball League playoffs at CRA Area.

"Liaison," managed by Buddy Martin, beat "Service Engineering #1" Tuesday night in a 9-8 squeaker. Winner of first half of seasonal play, "Service Engineering #1" was managed by J. M. Rogers.

Thursday night title holders are managed by L. C. Norman. They defeated "Photo Lab," managed by M. R. Robinson, by a score of 9-5.



**"LIAISON"**—Engineering Softball League winner for Tuesday night, "Liaison" team, is pictured above. Manager Buddy Martin is third from left on back row.

## Activities Calendar . . .

Convair Recreation Association events in the next two weeks are listed below. Read save it for reference until next issue ofers interested may clip this column and Convaireity. For more information, phone CRA office, ext. 2771 at Fort Worth, ext. 424 at Daingerfield.

### Fort Worth

Tonight, August 3

ASTRONOMY: meeting, 7:30 p.m., CRA.  
RANCH ACTIVITY: roping, 7:30 p.m., CRA.

Thursday, August 4

RADIO: operating, 7:30 p.m., CRA; Convair inter-division amateur radio club net, 9 p.m., CRA.  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.  
SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Friday, August 5

BRIDGE: duplicate session, 7:45 p.m., CRA.  
RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

Sunday, August 7

ARCHERY: shoot, 2 p.m., archery range, CRA.  
RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.  
TABLE TENNIS: play, 2 p.m., CRA.

Monday, August 8

MOVIE: "Silent Enemy." Shown lunch period, 50-foot aisle.

Tuesday, August 9

COIN CLUB: meeting, 8 p.m., CRA.  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

ROCKHOUNDS: meeting, 7:45 p.m., CRA.  
TENNIS: adult class, 6:30-8 p.m., CRA.

Wednesday, August 10

ASTRONOMY: meeting, 7:30 p.m., CRA.  
BRIDGE: duplicate session, 9:30 a.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., CRA.

Thursday, August 11

RADIO: operating, 7:30 p.m., CRA; Convair inter-division amateur radio club net, 9 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Friday, August 12

BRIDGE: duplicate session, 7:45 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

Saturday, August 13

MODEL AIRPLANE: radio control contest, 1:30 p.m., Benbrook Lake.

Sunday, August 14

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.

TABLE TENNIS: play, 2 p.m., CRA.

Monday, August 15

MOVIE: "Incredible Shrinking Man."

Shown lunch period, 50-foot aisle.

Tuesday, August 16

GARDEN CLUB: meeting, 8 p.m., Garden Center.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

Wednesday, August 17

BRIDGE: duplicate session, 9:30 a.m., CRA.



**MARKSMEN**—National Rifle Association contest winners practice target shooting at FW Gun Club. Left is Don Fowler, winner of Region Six competition. With him is W. L. Patrick, who placed 13th in nation. Both are Convair FW employees.

### Shot-by-Mail

## Fowler, Patrick Take Laurels In National Target Competition

Two Convair FW employees recently "shot by mail" and came out with National Rifle Association titles and "expert" classification.

W. L. Patrick Jr., Dept. 20, took 13th place in the nation, and Don Fowler, Dept. 27-8, was first in Region Six, in the annual postal rifle and pistol matches, sponsored by National Rifle Association in conjunction with National Industrial Recreation Association.

Patrick, who was regional champ last year, and Fowler entered the matches through CRA, which is a member of NIRA. They were both shooting pistols in a slow-fire match at a 50-foot target.

Contest rules required that entrants fire at targets mailed to them by NRA, with a witness present. Firing could be either inside or outside. And the witness had to sign the scores be-

for they were mailed back to NRA.

Fowler did his shooting at the Marine Reserve Armory, while Patrick's record was compiled at Fort Worth Rifle and Pistol Club Range.

## Calderola and Miss Mendolia Win Junior Tennis Tournament

Jerry Calderola and Marlene Mendolia were champions of CRA Junior Tennis Tournament, which climaxed summer classes at CRA Area.

Champions and runners-up were awarded trophies by Tennis Commissioner Hal Collins. Steve Baggett was runner-up in boys' singles division, and Laurie Bozeman was second among girls.

Meanwhile, adult tennis classes have started meeting at CRA from 6:30-8 p.m. on Tuesdays.

## Tennis Court Time Limited to One Hour

High number of requests for CRA lighted tennis court reservations has necessitated cutting time to one hour for any single reservation.

Effective the first of this month, time limits go on all three lighted courts at CRA Area.

Players may make reservations in CRA Office, where they must pick up their permits to play. Any one player may have two reservations each week.

## Hole-in-One Earnings City-Wide Publicity

Wayland E. Dedman, Dept. 85-3, received city-wide publicity when he made a hole-in-one at Rockwood Golf Course.

Using a seven iron on par three No. 8 hole, Dedman drove the ball 152 yards from the tee to hole for the first hole-in-one in his life. He was so excited when he discovered the ball in the hole that he threw his clubs in the air and ran to telephone his wife. But she wasn't home.

An every-weekend golfer, Dedman's average score for nine holes is 45 to 50.

## MG Sports Car Offered to Divers

An MG sports car will be top prize for winner of an international spearfishing meet, which members of CRA skin diving activity will attend Aug. 16-18. Site of the contest is Grand Isle, La.

## Model Airplanes Compete August 13

A radio control contest will be held at Benbrook Lake for CRA model airplane activity members, reports Commissioner C. L. Price Jr.

Events will begin at 1:30 p.m. Aug. 13.

## Recreation AND SPORTS



**"AERODYNAMICS"**—Manager L. C. Norman, second from right on first row, led "Aerodynamics" team, above, to championship of Thursday night League.

## Club Members To Hear Pace at Aug. 4 Meeting

(Continued from Page 1)

no reserved seats. Refreshments will be served during intermission.

A second feature of the Aug. 4 "Top Brass" night will be presentation of lifetime Management Club memberships to retired members. Club President C. C. Utley will award certificates to R. A. Wood, F. J. Tobin, W. T. Radford, P. Skelton and S. J. O'Leary. As life members they will not be required to pay dues and will have no vote, but they may purchase meeting tickets and attend all club events.

Special entertainment will be furnished by the Joan Frank Dancers, backed up by music of Biff Murphy and the Plaids.

Social hour begins at 5:15 p.m., with dinner at 6:15 and program at 7:15.

## Two Types of Atom Engines Considered For FW-Design Plane

(Continued from Page 1)

reactor aboard was test flown for two years to study radiation effects on aircraft components and to determine the best methods of protecting crewmen from the effects of radiation.

Convair FW last year won the Air Force competition to design the nation's first nuclear-powered airplane.

A. Kalitinsky is nuclear program manager at Convair FW.

Among others intimately associated with early phases of the nuclear aircraft program have been R. L. Lemmon, project engineer in charge of design for the nuclear plane, and Dr. H. R. Dvorak, chief of nuclear research and development.

Capt. Stephen R. Ragor heads up the Air Force's nuclear program project office at Convair FW, while Brig. Gen. Irving L. Branch is in charge of the overall program for the Air Force.

## First Value Control Seminar At Fort Worth Is Under Way

Value control as "a way of life" at Convair FW received its initial push this week with the beginning of a two-week seminar conducted by two veteran Convair Pomona analysts who are here for the sessions.

E. D. Heller and Ben Schroeder are coordinating the seminar in conjunction with five Convair FW men who spent two weeks with them in Pomona getting practical experience with the program as it is operated there.

The five are B. W. Kahla, Dept. 8; M. E. Aldrich, Dept. 6-4; T. A. Scott, Dept. 4; W. G. McMurry and J. D. Ancy, Dept. 3-3.

Ultimate purpose of the seminar, which coordinators plan to repeat on a continuing basis, is to develop a "value control attitude" as a part of the basic structure of Convair FW thinking.

The value control attitude is defined by McMurry as "looking

## Shakedown Flights Scheduled On First Hustler Conversion

Hustler No. 28 — first in a series of test B-58s slated for conversion to production status — is tentatively scheduled for early September shakedown flights by Convair FW crewmen.

"No. 28 is well into the field operations phase of conversion," according to Glenn Nelson, Dept. 63 general foreman. "Following engine runs, fuel checkout and test-firing of the tail turret, No. 28 will be ready for systems operation checkout."

"Then comes the Air Force assurance inspection, followed by flight prep. First taxi runs should be in September."

Following delivery of No. 28 to

## Eight Courses In Electronics Offered at FW

Registration has begun for classes in electronics to be held at Technical Institute this fall sponsored by educational services section at Convair FW.

Eight courses of 60 hours each are being offered at cost of \$12 per class plus textbook. Classes will meet from 7-10 p.m. twice weekly. Records of completion will be filed in employee personnel records.

Courses offered — provided 15 students register for each — include electrical fundamentals; magnetism and measuring devices; AC fundamentals and inductance; AC fundamentals and capacitance; power supplies; amplifiers and oscillators; transmitters; and synchros, resolvers and semi-conductors.

Also offered is a second class in radio telephone FCC license. A class in transistors has been scheduled to meet at Convair from 5-8 p.m. on Tuesdays.

If there is sufficient demand second shift classes will be organized to meet from 10 a.m. to 1 p.m.

Interested persons may register through educational services section, ext. 3442, mail zone C29.

the Air Force as a production airplane — probably in October — Convair will deliver production conversion B-58s to the Air Force at about a one-a-month rate throughout the program.

J. O. Muncy Jr., Dept. 94, said Hustlers No. 17, 23, 16 and 18 are now undergoing physical conversion in the experimental building. This makes a total of five test Hustlers "in work."

B-58s Nos. 20, 25, 21, 22, 26 and 27 are scheduled to enter the conversion program in the coming months.



**VOLUNTEER** — Mrs. Ruth Rogers, Dept. 6-6 at Convair FW, answers desk telephone as part of volunteer duties at Harris Hospital. She recently received award for having donated 1,000 hours to hospital work.

## RUTH ROGERS WINS VOLUNTEER HONORS FOR HOSPITAL WORK

One thousand volunteer hours working at Harris Hospital earned a special award recently for Ruth Rogers, Dept. 6-6 at Convair FW.

She was presented with an engraved loving cup at the annual Hospital Employees' Award Dinner. Only one other volunteer in the city had been so honored.

An engineering librarian at Convair 40 hours a week, Mrs. Rogers is a "floor worker" at Harris every Tuesday night. Her duties range from working with patients to answering desk telephones to giving information to visitors. All her services are non-medical.

Because of her veteran status at the hospital — she was a "charter" volunteer worker beginning in 1954 — Mrs. Rogers is now a volunteer instructor. In fact, she compiled the hospital's guidebook for volunteer workers, which includes rules and suggestions for their service at the hospital.

Seminar participants will be divided in groups of five; each group will be assigned a specific project with the task of applying value control principles and cutting costs.

Climaxing the two-week session will be presentation of project reports from each group.

Continuing with value control emphasis, the September Convair management development session will deal with this subject.

## Course in Politics Will Explain How Candidates Named

Behind the scenes in politics is exploration ground for 20 Convair FW Management Club members who register for "Politics-1960," newest course to be sponsored by management development committee.

Classes will get under way in mid-August, with plans calling for weekly meetings from 4:30-6:30 p.m. in manufacturing control department's conference room, Col. 72-Q.

Bill Knight will lead group discussions and supervise reading of the text. Eight weekly sessions will cover what leading political analysts and statesmen say about the presidency, major campaign issues, how candidates are picked and promoted by their parties, and other interesting political sidelights.

R. P. "Pat" Johnston, ext. 2255, mail zone P50, is handling registration. Cost is \$2.50 for the 266-page textbook.

## Vendors Given Recognition on Quality Work

Bendix Pacific, builder of the B-58 rendezvous system, and Industrial Products Division of International Telephone and Telegraph, which provides B-58 power supply, have been authorized by Convair FW to inspect their own products, because of their records of consistently high quality production.

These vendors have been named the first "Convair quality control designees" after a careful study of performance records by Convair FW quality control.

J. Y. McClure, manager of quality control department, enumerated three main advantages of the designee program.

"First, it accords recognition for outstandingly high accomplishment," he said. "In the second place, it reduces costs in the overall B-58 program. Third, it reduces 'log jams' which sometimes result when a vendor completes a system, then must wait for a Convair inspection."

Under the new designee program a vendor must undergo a thorough performance study. Upon passing, the firm is presented an official certificate and one or more members of the company are named "Convair quality control designees," in charge of quality control liaison between the sub-contractor and Convair FW.

From that point, the vendor does its own routine inspection, while Convair gives thorough goings-over to a periodic random sample.

The vendor must constantly maintain its high quality level to retain the designee certification.

McClure says plans are under way to award this recognition to other vendors as their products are proven to have the same consistent high quality level as Bendix and Industrial Products.

## Accident Rate Under Average

Accident frequency rate at Convair FW in 1959 was 1.09 disabling injuries per million man-hours worked — well under the 2.01 average for the aircraft industry.

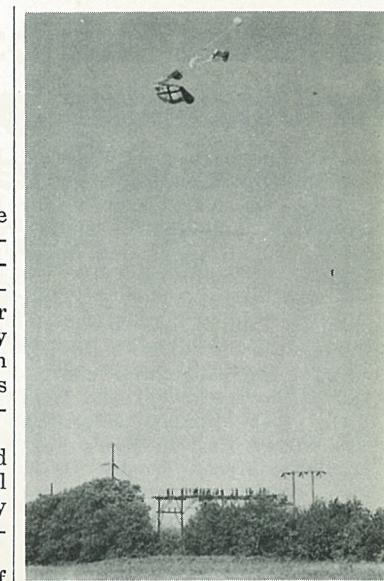
"The record was excellent," said Chief Safety Engineer Fred R. Temple, "considering the aircraft industry was third safest of 40 reporting to National Safety Council."

Temple warned, however, that the trend in accidents on the whole has been edging upward.

"Regrettably," he said, "accidents are today more costly than ever — both to the individual and the company.

"For example, National Safety Council figures reveal that U. S. citizens lost about \$4 billion in wages last year. Total loss through death, injury and property damage in the U. S. amounted to more than \$13 billion."

Of departments participating in the factory safety contest, these are sporting perfect records to date: 14, 21, 32, 33, 34, 35, 41, 46, 50, 51, 53, 54, 55, 57, 59, 65, 73, 81, 91, 92, 93, and 94.



**HIGH FLIER** — Production prototype escape capsule for B-58 Hustler "ejects" in static firing tests at Convair FW.

## Escape Capsule Successful in First Firing

The first firing of a production prototype B-58 escape capsule with a production-type rocket catapult was successfully completed last week at Convair FW.

Under direction of Test Engineer T. F. Hannigan and Instrumentation Engineer E. A. Allen, "test requirements were definitely met."

Chief purpose of the firing was to test the mated production-type capsule and rocket catapult — together for the first time. Previous firings from the supersonic sled in Utah used the interim rocket.

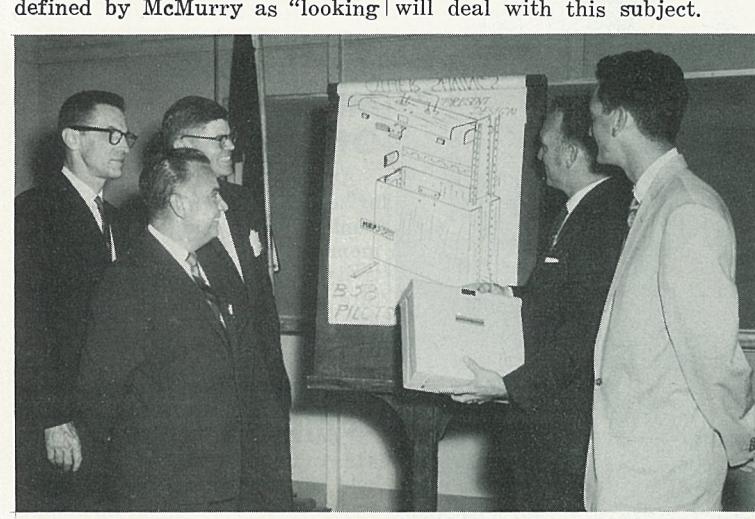
The FW test was of a pilot's capsule, which carried a 200-pound dummy man inside. It "ejected" to a height of approximately 200 feet and landed some 425 feet from the firing point.

Recording the tests — the first time the production-type rocket had ever been fired — were high-speed movie cameras from the FW engineering motion picture section. They were shooting all-color film at 1,000 frames a second.

Next static firing will be of a crew member's capsule, probably the second station, according to J. E. Hickok, project test engineer.



**SETTING UP** — Test engineers at Convair FW help position B-58 escape capsule, preparatory to static firing tests of production type rocket catapult.



**VALUE TEAM** — Fort Worth team that took part in value control seminar at Pomona recently are M. E. Aldrich, T. A. Scott, B. Kahla, W. G. McMurry and J. D. Ancy. They are participating in similar seminar which started this week at Fort Worth.

## John Watson Elected National Director Of NMA, Five Clubs in His Jurisdiction

John N. Watson, Convair FW training specialist, has been voted NMA national director and nominated vice president of Zone B.

Nomination for the latter office is usually tantamount to election and will be confirmed at NMA's national convention in Atlanta.

Long active in Management Club affairs on both the local and national levels, Watson won over two other candidates.

John Watson

As one of 10 NMA directors in Zone B, he will oversee activities in five clubs: ASF Industry in Albuquerque; Rocketdyne in McGregor; Braniff in Dallas; Grayson County Management Club, Sherman; and Convair Management Club.

Zone B encompasses New Mexico, Colorado, Kansas, Oklahoma, Iowa, Missouri and Texas.

In addition to visiting each club in his area three times a year, Watson will attend NMA directors meetings, present new charters and install club officers, and participate in area council activities. He will continue to serve on the indoctrination and management development groups.



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# Convairity

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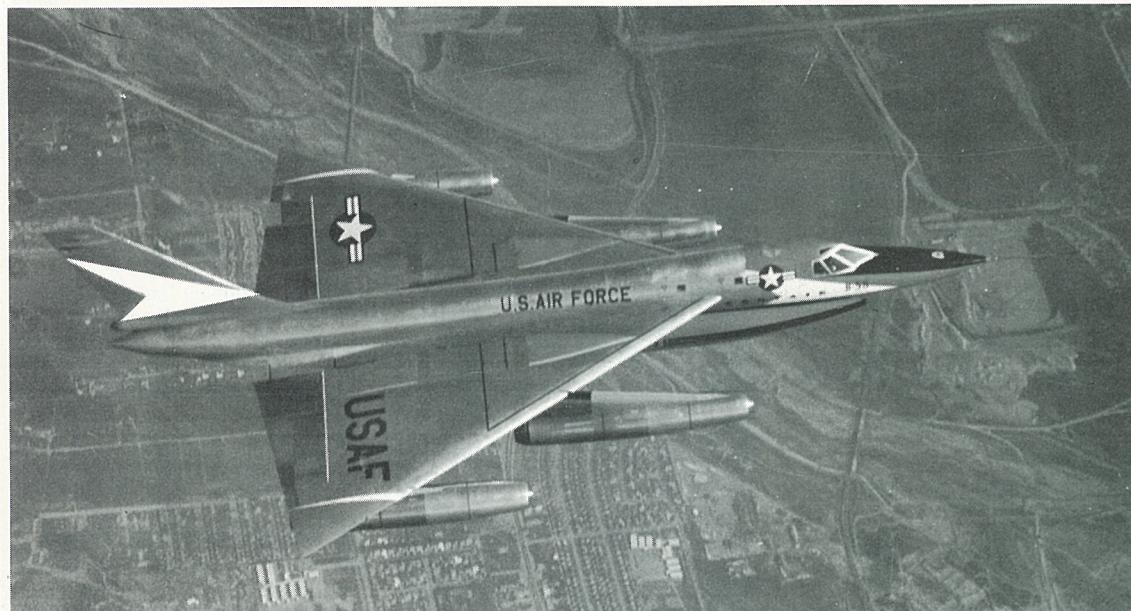
Wednesday, August 17, 1960

SAN DIEGO, POMONA, ANTELOPE VALLEY, CALIF.

Fort Worth and Daingerfield EDITION

Fort Worth news office: ext. 2961; Daingerfield news office: ext. 424

ASTRONAUTICS OFF-SITE BASES, FORT WORTH, TEX.



TARGET FOR TONIGHT—Scene of B-58 Hustler making simulated bomb run as darkness approaches will be repeated during SAC bombing competition Sept. 13-16.

## New Flight Control Lab 'Tailor-Made' Dust Free

A tailor-made flight control laboratory—dust free and splendidly equipped—is now in operation at Convair FW.

W. D. Halsey, recently appointed assistant factory manager-flight controls (Dept. 78) heads up the lab which will be used to repair and modernize the Hustler's flight control equipment.

Trained flight control technicians who man the lab work in an environment similar to that in which the equipment was originally manufactured.

For example, they pass through air locks—where they don white coats and caps—before entering the lab.

"Air pressure in the lab is higher than outside pressure," Halsey explained. "This prevents contaminated air from entering."

The technician also steps on a special nylon rug at the entrance to remove dust from his shoes.

Real dust remover, however, is the precipitron—an electrostatic filter which continuously pulls dust and other foreign particles from the air in the lab.

Other precautions: no smoking or eating inside the lab; periodic mopping of the asphalt tile floors; and frequent dusting of light fixtures with a special dust-catching cloth.

Halsey described the lab as "one of the best equipped of its type in the country."

"We knew precisely what we were to test and what power we needed to test it," Halsey said. "This made it possible to utilize existing space and equipment to the nth degree."

The location was served by a separate 32-ton air conditioning unit, making it ideal for a win-

(Continued on Page 8)

## Housekeeping 'No Go's' Drop

Housekeeping at Convair FW improved during the second quarter of 1960 — dropping from 15 to six "No Go" conditions.

Improvements being made in plant should lead to even better performances, according to J. F. Ringo, manager of industrial engineering and facilities.

"We've installed a Packmaster disposal system, repainted plant buildings, installed a chip disposal machine, and provided a new engineering office for consolidating personnel," Ringo said. "In addition, plant engineering continues its rehabilitation program of plant buildings and equipment.

"However, employees should remember that any let up in housekeeping activities will mar our next performance. We still had six 'No Go' areas — and our aim is none."

## Foreign Policy Role Seen For Atom Airplane

The overall strength of the B-58 program will likely be enhanced once the Strategic Air Command becomes thoroughly familiar with the Hustler's "unique capabilities," Frank Pace Jr., General Dynamics' board chairman, said on a visit to Fort Worth Aug. 4.

And the nuclear airplane—now being developed for the U. S. Air Force at Convair Fort Worth—can play an important role in U. S. foreign policy, Pace told reporters who interviewed him before a meeting of the Convair Fort Worth Management Club at the Ridglea Country Club.

"SAC's acceptance of the Hustler" (from Air Research and Development Command on Aug. 1, when 12 of the supersonic bombers were turned over to the 43rd Bomb Wing at Carswell AFB as the first operational B-58 elements of SAC's Aero Space Force) "was a great milestone," Pace said. "The B-58 program has completed its period of greatest travail.

"We have had confidence in the B-58 all along. Its greatness is attested by its unique low-level flight capability for which the Hustler wasn't originally intended.

"At the outset, some doubted the B-58 would do Mach 1.5. It has done better than 2," he added.

(Continued on Page 8)

## First Trainer B-58 Enters Service At Carswell Combat Crew School

Convair's first trainer B-58 went into service this month in the B-58 combat crew training school at Carswell AFB — where it will be used to train the nation's future Hustler crewmen.

Col. James K. Johnson accepted TB-58 No. 1 into the 43rd Bomb Wing following acceptance flights in August by an Air Force acceptance crew at Convair.

Ferry acceptance flight of the trainer to Carswell AFB was made by a crew of Lt. Col. L. M. Legge, commander of the 65th Bomb Squadron and the training school, Maj. Joe B. Thomson Jr., chief of flight operations and acceptance at Convair, and Lt. D. F. Dickerson.

"The trainer will be gradually integrated into our regular B-58 training school," Colonel Legge said. "This means that future Hustler pilots will eventually 'fly' the simulator, then a TF-102 and TB-58 before taking the helm of a production Hustler."

Colonel Legge said the B-58 training school is run in conjunc-

tion with the field training detachment, ATC, at Carswell, which turns out Hustler ground crews.

A "routine," two-hour acceptance flight was made by Major Thomson before the ferry flight. Capt. T. H. McMullen, second station, and Capt. R. S. Ballard, third station, were other crewmen.

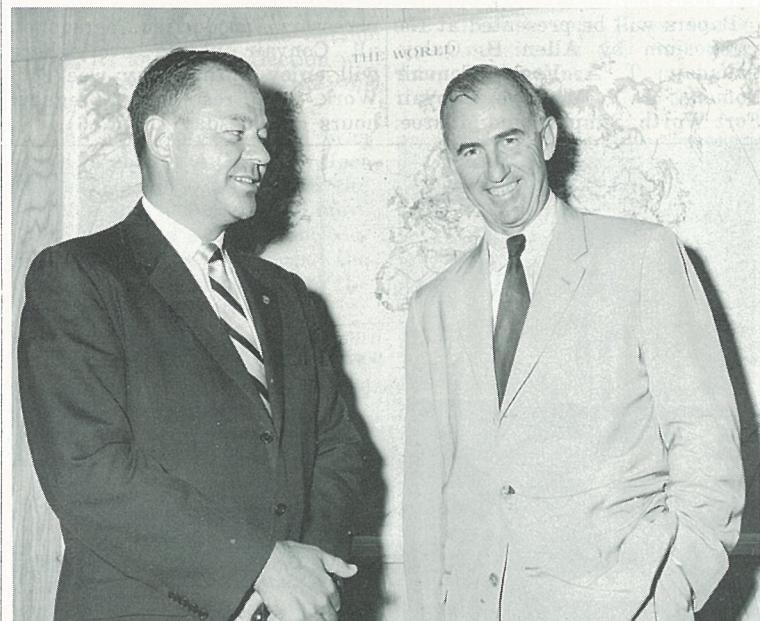
"The TB behaved beautifully," Major Thomson said. "We feel it'll make a real tool for training combat crews."

During checkout of TB-58 No. 1 by both Convair and Air Force crews, in-flight operations of all systems peculiar to the trainer were successfully demonstrated.

Three other TBs are currently being modified from test to trainer configuration. They're also earmarked for the B-58 combat crew training school.

Basically, the trainer will be used in training for: transition and proficiency, instrumentation proficiency, and standardization procedures.

(Continued on Page 8)



LEADERS — Frank Pace Jr., right, chairman of the board of General Dynamics Corporation, and Frank W. Davis, Convair vice president and FW manager, meet in main conference room during Pace's visit to FW plant.

## Hustler to Enter Bombing Contest With SAC's Best

A B-58 Hustler from the 43rd Bomb Wing will compete in the 1960 SAC Combat Competition at Bergstrom AFB Sept. 13-16—first entry for the Hustler in the annual bombing competition.

Two B-58s will fly to Bergstrom Sept. 11, with one of the Hustlers remaining on static display.

Crews selected by Col. James K. Johnson for the competition are: Maj. Henry Deutschendorf, pilot; Capt. William L. Polhemus, navigator; and Capt. Raymond R. Wagener, DSO.

Also Maj. Harold E. Confer, pilot; Maj. Richard H. Weir, navigator; and Capt. Howard S. Bialas, DSO.

Each entry in the competition will make three combat missions. Included in the flights will be high- and low-level bomb runs, navigation runs, refueling, and alert checks.

Simulated bomb runs will be made over "new, unannounced targets," lending to the realism of the contest.

## General LeMay Slated to Talk At Aug. 26 Meet

Gen. Curtis E. LeMay, Air Force vice chief of staff, will speak to a joint meeting of Convair Management Club and Fort Worth Air Power Council members Aug. 26 at Ridglea Country Club.

A host of military and civilian leaders will be guests at the special event which gets under way with a social hour at 5:30 p.m.

Fred Korth, president of FW Air Power Council, and C. C. Utley, head of Convair's Management Club, said the meeting would be "of special interest" to members of both organizations.

General LeMay was for nine years commander in chief of Air Force's Strategic Air Command before being elevated to his present post in 1957. His flight experience dates back to 1929.

In 1942, he took command of the 305th Bombardment Group, one of the first bombardment

(Continued on Page 8)

Included on the 43rd's task force for the competition are: Capt. A. Rose, planning and briefing; Capt. Polhemus, operations analysis; Maj. Deutschendorf, alert capability; Col. J. A. Hutchinson, combat competition project officer; and Maj. R. C. Doom, maintenance support.

## B-58s Become Part of SAC's 'Starting Team'

Combat-ready Hustlers this month moved into SAC's "starting line-up" as the B-58 program at Carswell AFB moved into high gear.

Gen. Thomas S. Power, SAC commander in chief, authorized Category III Hustler demonstrations, following a recent review of the B-58 program.

Thus the 43rd Bomb Wing—first operational B-58 unit—begins to evolve the very latest in combat tactics and techniques for the Mach 2 bomber as it becomes a senior stalwart in the SAC arsenal.

"Executive responsibility" for the entire fleet of Carswell-based B-58s now goes to the 43rd, commanded by Col. James K. Johnson.

This includes test Hustlers in the 6592nd Test Squadron, ARDC, under command of Col. David M. Jones. ARDC will continue to offer "technical assistance and advice."

Hailing the Hustler as the "finest piece of hardware in existence today," Col. Johnson said the Category III task is to determine "operational suitability" of the Hustler.

"Our goal is to put the Hustler into complete combat readiness," Col. Johnson said. "And this will include combat crew training for

(Continued on Page 8)

## B-58 Capsule Is Undamaged In First Firing

First firing of a B-58 capsule from a Hustler production bulkhead was successfully completed by Convair FW test engineers this month.

It was the first in a series of four scheduled inert-rocket, static firings of the capsule into a nearby circus net. The capsule was recovered "virtually undamaged" after the initial firing.

"Test results indicate that bending of capsule, catapult tubes, and bulkhead during firing would not cause a malfunction of the catapult," said Jack Hickok, project test engineer.

Catapult was pre-heated to 200 degrees Fahrenheit for the first test. Next test will be at minus 65 degrees Fahrenheit—completing the required temperature testing range.

Hickok said the net will be used in following tests to prevent damage to the "valuable capsule."

Following completion of four tests, the capsule will be equipped with a recovery system preparatory to the first complete free-flight static firing—probably in September.

## Astro Pushing to Speed Atlas Base Activation

Astronautics operating division has opened an "all-out push" aimed at speedy activation of Atlas missile bases.

The push followed a top level conference in Washington, D.C., called late last month by Defense Secretary Thomas S. Gates Jr., involving some 50 defense contractors connected with Atlas and Titan base activation. Attending for General Dynamics Corporation were Board Chairman Frank Pace and C. Rhoades MacBride, General Dynamics executive vice

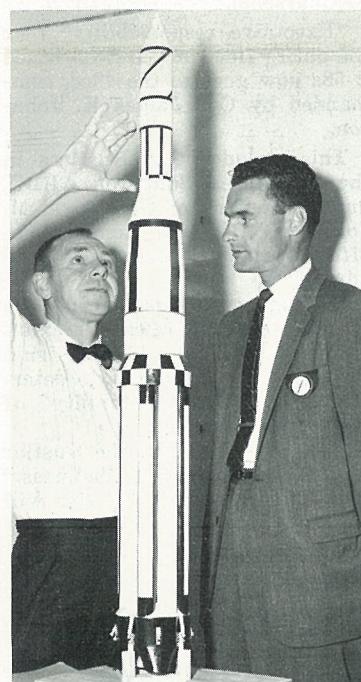


**IN CHARGE** — Maj. Gen. Thomas P. Gerrity is now key figure in Atlas base activation program.

### Four-Foot Model of Space Probe Constructed by Air Force Capt.

Capt. R. H. Campbell, USAF, assigned to Astronautics' Centaur project office, recently presented G. D. Davis, senior project engineer for Centaur, with a four-foot model of the space probe.

Capt. Campbell is assigned to Astro as part of the AF train-



**THINGS TO COME** — G. D. Davis, senior project engineer, Centaur program, points out Centaur portion of model space probe built by Capt. R. H. Campbell, USAF (right). Capt. Campbell presented model to Davis recently.

ing with industry program. The balsa wood model, which Capt. Campbell built in his spare time over a two-month period, is a 1:48 scale replica of the 192-foot missile.

Capt. Campbell is now working on a scale launch platform.

The "real-life" service tower for the big bird will be 310 feet high, and when completed at Cape Canaveral will be the tallest structure in Florida.

### Canadair Host On Reliability

Seventh meeting of the General Dynamics Corporation Reliability Panel will be hosted by Canadair Ltd. Aug. 31-Sept. 1 in Montreal.

Convair SD's W. R. Monroe, manager of reliability, will chairman the 31-member group representing all Convair operating divisions, Canadair, Liquid Carbonic, Stromberg-Carlson, and Electric Boat.

Guest speaker will be George Henderson, head of the reliability group for the Army Rocket Guided Missile Agency.

Paul Benner, Convair SD chief of quality assurance, is secretary of the panel. A third post, that of chairman of the reliability research panel, will be filled by N. H. Simpson, manager of reliability, Convair Fort Worth.

Papers will be presented at the symposium by Allen B. Oxley, Canadair; T. A. Vogel, Convair Pomona; J. Y. McClure, Convair Fort Worth; Simpson and Monroe.



**TEST BED** — General Electric's new J-93 engine, earmarked for North American's Mach 3 B-70, will do its first flying in B-58. Hustler is shown here with J-93 flight test engine pod beneath

to maintain staff surveillance over the entire site activation program.

AMC's responsibility will not extend to the existing ICBM sites at Vandenberg, Warren and Offutt AFBs, but will include the following Atlas bases now being built or scheduled: Fairchild AFB, Wash.; Walker AFB, N.M.; Lincoln AFB, Neb.; Forbes and Schilling AFBs, Kan.; Altus AFB, Okla.; Dyess AFB, Tex.; and Plattsburgh AFB, N.Y.

Senior Air Force colonels have been appointed as Site Activation Task Force Commanders at the various bases, reporting directly to General Gerrity.

They will be responsible for successful activation of their respective sites, including construction, installation, checkout, and the site turnover to SAC.

Atlas missile sites and task force commanders are:

Fairchild AFB: Col. Thomas S. Jeffrey Jr.

Walker AFB: Col. Robert I. Barrowclough.

Forbes AFB: Col. William E. Ruark.

Schilling AFB: Col. Arthur W. Cruickshank.

Altus AFB: Col. Ernest L. Ramme.

Dyess AFB: Col. Hugh H. Manson.

Plattsburgh AFB: Col. Calvin W. Fite.

Five other AF colonels have been appointed for Titan bases.



**PURPOSEFUL** — Frank Pace, General Dynamics board chairman, this week called upon Astronautics operating division for extra effort in activating Atlas bases. Pace praised Astro people for performance to date.

## Atlas Launch Positions Join In SAC Alert

OFFUTT AFB, NEB. — Three Atlas launch positions located at Cheyenne, Wyo., last week had been turned over to the Strategic Air Command and were declared operational by Gen. Thomas S. Power, SAC commander-in-chief.

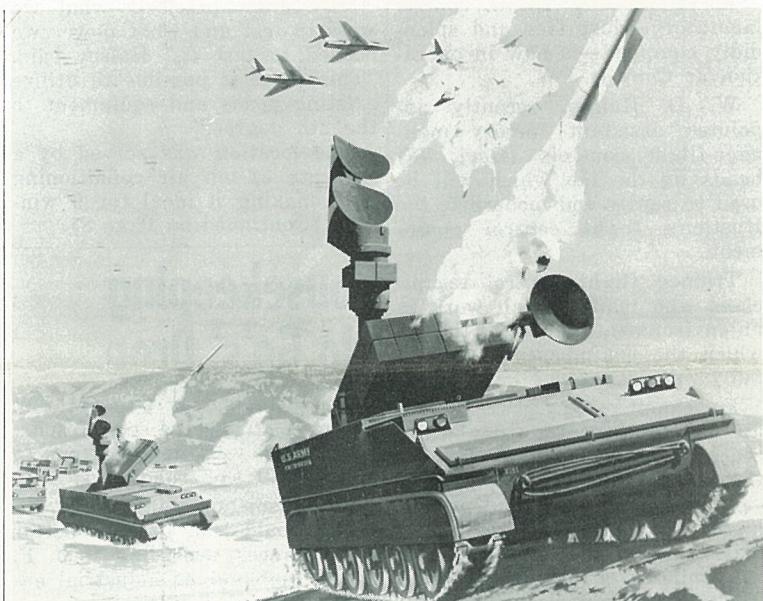
SAC headquarters is located at Offutt AFB, Neb.

The launch positions were turned over to the 564th Strategic Missile Squadron by the Air Research and Development Command. The squadron is based at Warren AFB, Cheyenne.

General Power said the missiles have been placed on alert status along with SAC's B-47 and B-52 bombers and the Atlas ICBMs at Vandenberg AFB, Calif.

The new facility constructed by the Corps of Engineers for AFBMD will be manned by personnel of the 564th SMS, commanded by Col. Julius Pickoff of Manor, Tex. Additional launch positions now undergoing final installation and checkout of technical equipment also will be operated by the 564th, which is assigned to the 706th Strategic Missile Wing at Warren AFB.

Thirteen Atlas ICBM squadrons are presently programmed. Three squadrons eventually will be located at the Wyoming base.



**MAULER IN ACTION** — Artist's conception shows Mauler mobile, automatic-firing air defense system in action.

## Anti-Missile Mauler Emphasizes Mobility

WASHINGTON — The Department of the Army last week released an artist's conception of the Mauler air defense missile system, now under development by Convair Pomona.

It showed tracked vehicles traveling across open country, each carrying a self-sufficient fire unit consisting of ground-to-air missiles and target-detection and fire-control equipment.

A highly mobile weapon using solid propellant, the Mauler missile is designed to destroy short range enemy ballistic missiles

and rockets, and high-performance tactical aircraft that bomb, strafe, harass or reconnoiter near forward battle area positions.

The Army Rocket and Guided Missile Agency, an element of the Army Ordnance Missile Command at Redstone Arsenal, Ala., has overall charge of Mauler development.

It is anticipated that any future enemy will use modern jet aircraft in close support of his own forward units. The Mauler weapon, a part of the Army's modernization program, will be a powerful answer to that threat.

Each Mauler fire unit will be contained entirely on a self-propelled chassis of standard design. The fire unit will be capable of delivering accurate fire even while moving. This characteristic conforms to present Army policy, to give a high degree of mobility to all its new weapon systems so that an enemy is not presented with targets which are anchored to the ground.

The Mauler fire unit will be light enough to be carried by aircraft or helicopter, and to be dropped by parachute into battle areas. Each Mauler fire unit will contain its power supply, and target-detection and electronic computer fire-control equipment.

The missile will be prepacked in lightweight cases that will serve both as shipping containers and as launching tubes.

fuselage. It will be used to flight test new engine. With J-93 operating, Hustler's four J-79s will be throttled back. Photo was taken during an open house at Edwards AFB, Calif.

## Flight Test Data Techniques Used In Study of Underwater Movement

Convair San Diego instrumentation engineers are going down to the sea to study ocean waves.

Demonstrating that the same techniques used in gathering data in space can work just as well to delve beneath the ocean's surface, SD engineers in flight test instrumentation have been keeping vigil in a lonely tower out in the Pacific Ocean off Mission Beach.

For seven days, 24 hours a day, telemetering equipment assembled at Convair SD has been flashing signals to Plant 1 flight test data station. Signals describe temperatures of internal waves — the small waves below the surface which can have a terrific impact on underwater travel.

Working in cooperation with the Naval Electronics Laboratory on Point Loma, which established the oceanographic research tower a year ago, SD engineers are showing just how such automatic data processing methods developed for Convair flight testing can facilitate accumulation of other types of information.

"Our data recording and processing methods are acquiring in-

formation five times as fast as those now in use," said H. E. Seibert, supervisor of the SD group. "The mass of ocean information, which would have taken seven months to interpret is reduced in two days through Convair SD flight data station."

The NEL tower, in charge of Arthur Nelson, NEL engineer, is a 25x25-ft. corrugated tin structure standing on steel piles in 60 feet of water half a mile west of Mission Beach amusement center. Equipment and men are transported back and forth on the NEL 50-ft. utility boat from a Mission Bay Sportfishing dock. Dr. Eugene La Fond is director of NEL marine environmental studies branch which operates the tower.

The recent demonstration is an outgrowth of the current Convair SD study for the Office of Naval Research, Washington, D.C., on high speed data methods in oceanography. The one-year contract is for \$130,000.

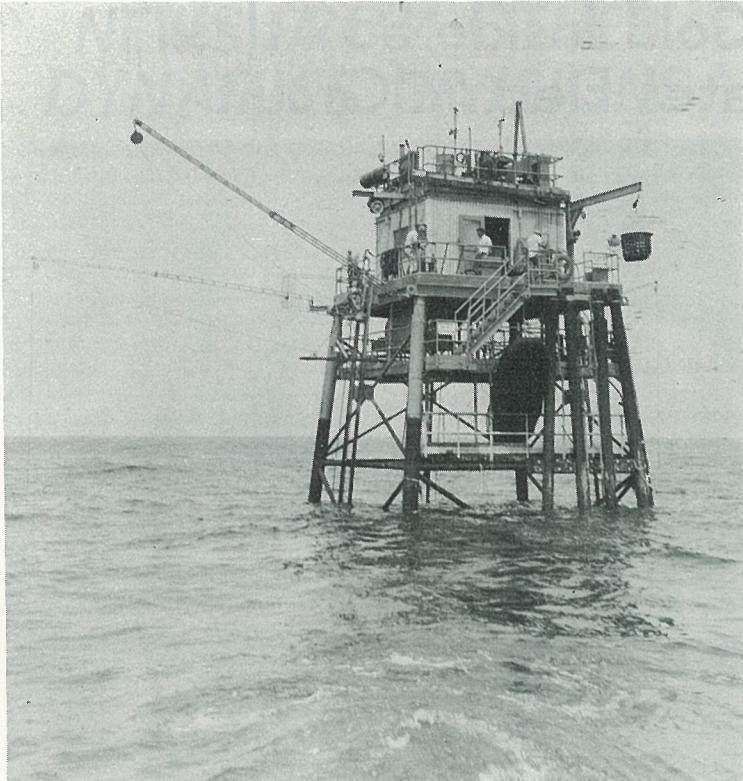
Five Convair men in Seibert's group are continuing their research which will result shortly

in a design criteria guide for data acquisition methods applicable to oceanography study. They are Robert Devereux, Richard Baxter, James Lack, Michael Dutcher, and Kenneth Morgan.

In addition, two consultants have been working closely with the Convair experts. Dr. A. J. Mallinckrodt, owner of Communications Research Laboratories, Santa Ana, Calif., advises on radio propagation and communication theory, and V. C. Smith of Chu Associates of Boston, Mass., on antennas.

"We are putting to other uses the know-how from our years of development of high speed data acquisition methods for aircraft and missile flight testing program," said V. J. Schack, senior instrumentation design group engineer.

Data acquisition methods worked out at Convair SD would go onto unmanned buoys to transmit to shore stations such data as water temperature, air temperature and humidity, barometric pressure, wind direction and speed.



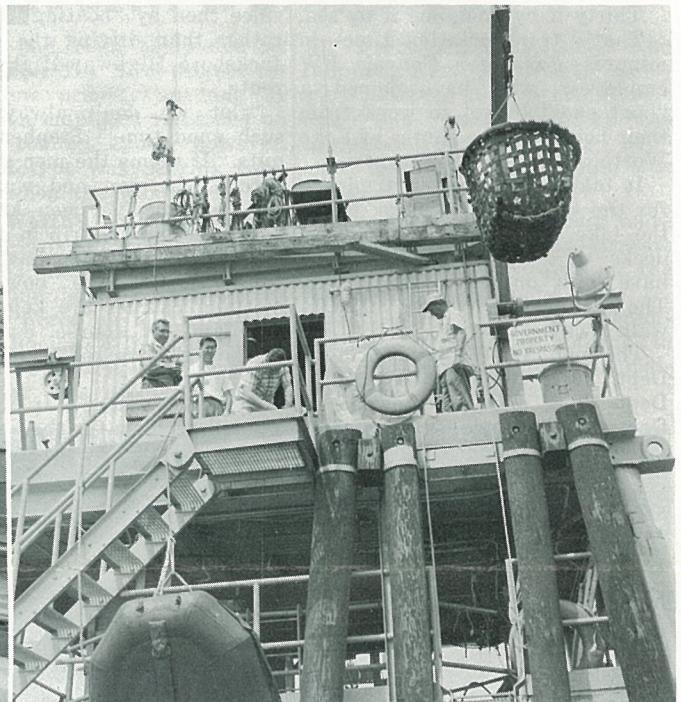
**SEA STUDY**—Tower half mile off San Diego's Mission Beach is center of novel underwater study. Flight test data techniques are used to record submarine waves. Telemetering equipment relays data round-the-clock to Plant 1 flight test data station.



**SHORE TO TOWER**—At left Harvey Seibert, SD engineering flight test instrumentation group engineer, stands atop Bldg. 51 at SD, alongside antenna that receives signals from sea tower. He can communicate with tower by walkie-talkie.



Jack Heming and Ken Morgan of Convair SD engineering flight test instrumentation load equipment on utility boat which carries them to tower at sea. At right is closeup of tower. Basket is used to hoist equipment.



## Carousel Called to Duty For Movie Explaining B-58 Navigation System

Calliope and carousels have found a spot in the aircraft industry. Convair FW is using carnival rides to illustrate principles of centrifugal force and the Coriolis effect on navigation of the B-58 Hustler.

Engineering motion pictures

section, in making an inertial navigation training film for the Air Force, was faced with the problem of visualizing these effects which make navigation of aircraft a complex problem. They came up with their answer on the grounds of the Carswell AFB

Carnival.

To illustrate the effects of centrifugal (outward) force, they used a swing ride. As the ride turns round, suspended chairs swing out and away from the center illustrating centrifugal force.

But the farther a body is from the axis of rotation, the greater the centrifugal force. To show this, photographers left one swing on the outside of the circle and put another farther inside on a line to the center. Because of the greater force on the outside swing, its angle of deflection was greater than that of the one nearer the center.

The merry-go-round was used to show the Coriolis effect on navigation. It's due to the earth's spin which causes moving bodies to seem to be deflected to the right in the northern hemisphere and to the left in the southern.

To illustrate, photographers placed two Carswell airmen on the carousel, one near the center and one on the outside of the ride. As the ride turned the two men played "catch."

The inside man first pitched a softball directly toward the other. It was a complete miss because the carousel's spin had taken the catcher past the ball before he could catch it.

But when the pitcher aimed a little ahead of his target, the other man made a perfect catch as the carousel moved him up to the ball. This Coriolis effect is the reason an airplane can't aim "straight" for its destination.



**ILLUSTRATIVE**—To show effects of centrifugal force and gravity on B-58 navigation, Convair FW cameramen prepare to photograph carnival swings, swung out in motion round-and-round.

## AF Cadets Visiting Hamilton AFB Get Orientation Rides in TF-102s

Air Force Academy cadets climaxed a recent visit to Hamilton AFB, Calif., with rides in Convair TF-102s, as well as other Century series aircraft.

For the fourth year Hamilton AFB hosted 600 cadets during orientation which took groups to Nike sites, ground-controlled intercept sites, and other installations pertinent to their training.

"Reliability of the TF-102 was again demonstrated during this exercise," reported R. L. Costan, Convair SD service parts logistic support representative. "All TF-102 aircraft were flown two or three missions a day with minimum maintenance."

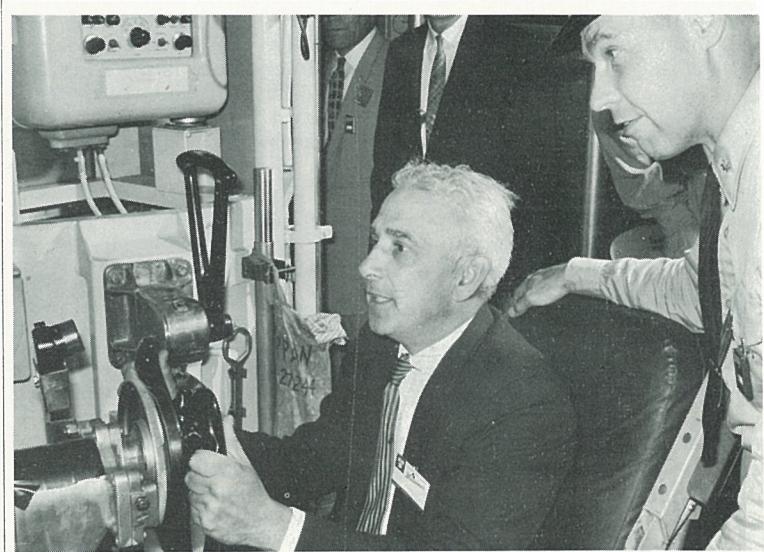
Costan assisted crews in selec-

tion, identification, and procurement of spares and Robert Corrmany, SD field services rep, contributed technical assistance to keep the Convair planes in readiness for each mission.

### Veteran SD Engineer George Hansen Dies

George E. Hansen, a Convair veteran of 18½ years, collapsed and died at his desk Aug. 9. He was a senior design engineer in the modification section of engineering, Convair SD.

He is survived by his wife, Antionette, and two daughters, Marilyn and Barbara.



**AT THE HELM**—During recent visit aboard Polaris-firing nuclear submarine USS Patrick Henry, Convair President J. V. Naish took airplane-like controls under direction of Lt. Cdr. Charles D. Grojean, ship's executive officer.



**HOMEWARD BOUND**—“Boat pool” members at Convair FW head home across Lake Worth after day’s work. W. W. Stephenson, center, relaxes with Convairity, while Neal Lavery tries for a “quick catch.” Bill Rowden’s attentions are focused ahead, as it’s his day to “drive.”

#### Over the Waves

### ‘Boat Poolers’ Dodge FW Traffic; Often Fish en Route to Work

Thirty if by land, one if by sea. That’s transportation time—in minutes—for three Convair FW employees who have joined a “boat pool” to get to work from their homes on the shores of Lake Worth.

It takes a little over a minute for the threesome to skim across the lake from their neighboring docks to a “private” dock they have built on the Convair side. The gate is just another minute’s walk away.

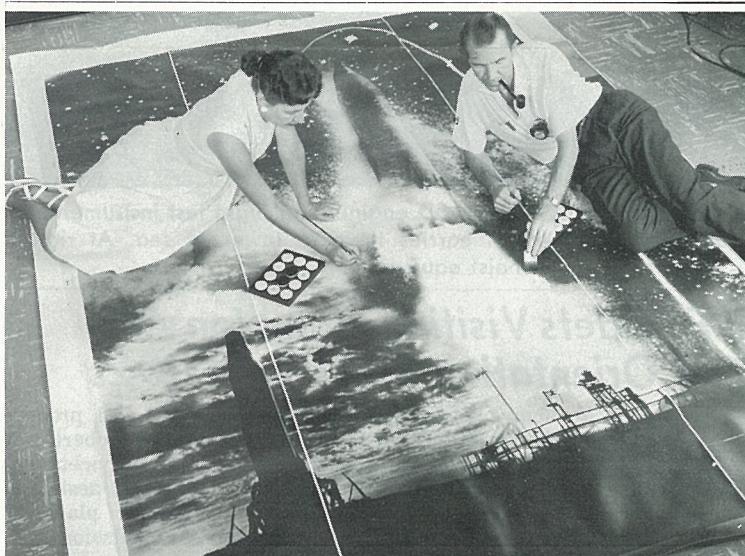
The men, W. W. Stephenson of Dept. 29-2, Neal S. Lavery of Dept. 29-3, and Bill Rowden of Dept. 15-5, teamed up with their three boats in January. They estimate they’ve saved about 360 collective transportation hours

since then by “boating” to work, rather than driving the crowded Jacksboro Highway-Highway 183 route.

“But we don’t always make such good time,” Stephenson admits. It seems the men are dedicated fishermen and water skiers, and they’ve been known to make the minute trip in an hour!

Lavery says they have a fish basket under the bow where morning catches are kept during the day. Of course, evening catches go straight to the cleaning board!

Stormy weather? It does pose a small problem for the boat poolers. “But we just roll up our pants legs and go on,” Rowden smiled.



**FINISHING TOUCHES**—Still photo employees Dawne Daynes and Tom Sutton touch up large photomural recently prepared at Astronautics. Four pictures were printed to appear as one in finished product.

### Photos of Atlas Missiles Joined To Form Wall-Size Photomural

Four separate photographs taken at different times and places are combined in one large photomural recently prepared by Astronautics’ still photo section (Dept. 120-5).

Several steps went into the preparation of the finished 6x10-ft. print.

First, four photographs were carefully printed to appear as one. One picture is the fiery trail blazed by missile 10-B as it soared from AFMTC. Another shows the AFMTC launching of Atlas 56-D, and a third captures 12-D at Vandenberg AFB.

The missile photos are superimposed on a telescopic view of the constellation Andromeda obtained from Palomar Observatory.

The first composite print was 11 by 14 inches in size. This was photographed to provide an 8 by 10-inch negative from which the final enlargement was made by projecting the image on two large sheets of sensitized paper. For this, the sheets were hung on the lab wall side by side with a slight overlap, just as wallpaper is hung.

As a final step, before display, the two parts of the print were patched and assembled, and tiny defects were painted out by hand.

### There’s Real Gold Inside an Atlas; Thin Layer Plates Electric Circuit

Convair’s Atlas missile has a heart of gold!

Deep down in the electronic “organs,” life center of every missile, this precious metal has an unglamorous but extremely useful task.

Astronautics’ manufacturing processing (Dept. 733) uses gold to plate certain contact points on electronic printed circuits.

“Gold is used here because of its high corrosion resistance,” says J. A. Villian, processing foreman. “It doesn’t tarnish as easily as more common metals, and is an excellent conductor of electricity.”

In other electronic uses, he explained, it is used to shield parts against certain radio frequencies.

Many steps are necessary before the final layer of gold, only .0002th of an inch thick, is plated on parts of the circuit board.

The complex board starts as what appears to be a thin copper plate about 8 by 10 inches in size. A number of small holes puncture it in an apparently random pattern. Actually, this is a sheet of epoxy resin with a thin copper “skin” laminated to either side. The holes are attachment points, precision drilled where circuit elements will be added later.

First the holes need a copper coat around their inside diameters to insure good electrical contact when other parts are soldered in place. This is accomplished by “emersion plating,” a process which sends the board through a series of chemical baths where it collects a film of copper.

W. H. “Shorty” Coppage, a veteran of 20 years in industrial plating, attends to this task, assisted by C. A. Howard and other platers.

When the holes are lined to the proper thickness, the circuit is masked off on the board with a blue-black “resist coating” known as “KPR.”

“This shields the board during the next steps in processing,” explains R. D. Arnold, assistant foreman.

Now the circuit is electroplated with copper and solder.

Then the KPR is removed and an acid bath cuts away excess laminate from the board. The circuit, outlined now in solder-covered copper, remains alone on the semi-transparent epoxy.

In other industries, the board would be ready for use at this point, but not so in Astronautics’ missile factory.

In another masking and electroplating process, the board is placed in a solution of potassium cyanide in which tiny gold flakes are suspended. By electrolysis, the particles are attracted to form a gleaming film over contact points at one edge of the board.

When other electronic parts have been soldered in place, the whole board can be slipped into position almost as easily as a home appliance is plugged into a socket.

The missile’s “heart of gold” will insure effective and lasting contact.

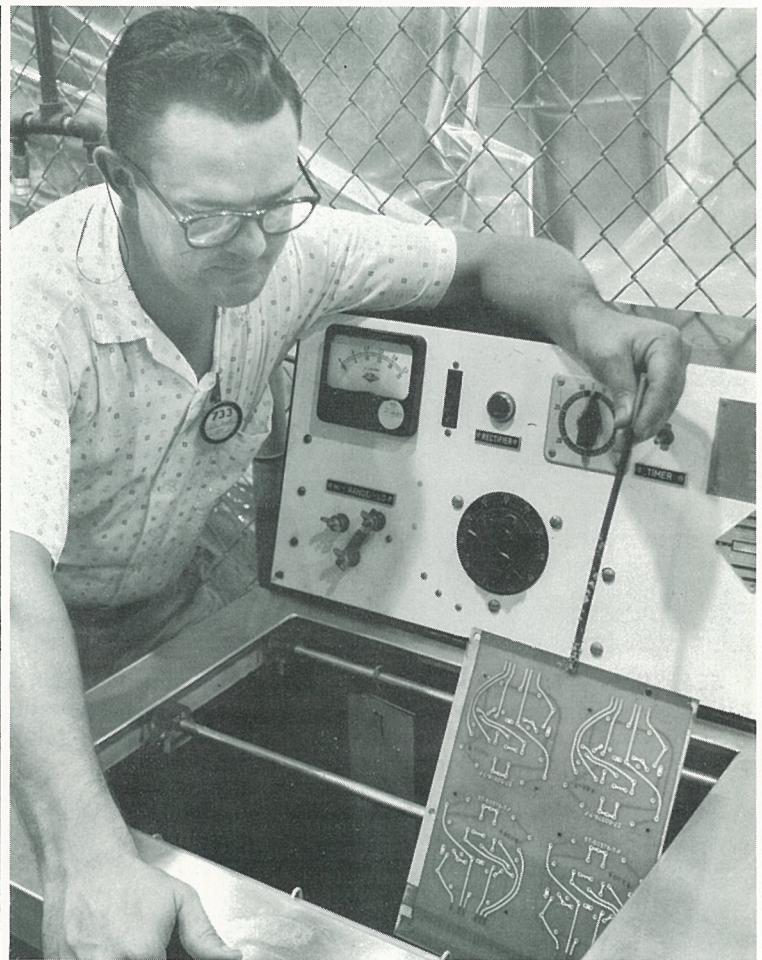
#### Classes Conducted In Home Swim Pools

That “old swimming hole” is getting a new twist these days for San Diego youngsters—with the help of three Convair SD Dept. 25 men.

H. C. Wilson, W. T. Toon and Howard Apple are turning over their home swimming pools to invading groups of children, six years old and up, three days each week for three weeks.

The Convair families let youngsters use pools in cooperation with a swim instruction course of the Red Cross.

“Almost 30 children are in each class, and it looks like a major invasion pouring into our backyard,” Wilson states, “but it’s a pleasure to see them gain confidence and turn into proficient swimmers.”



**GOLDEN TOUCH**—Chester Howard, Astro Dept. 733, examines printed electronic circuit board as it comes from manufacturing processing’s “jet plater.” Terminal ends of circuit pattern at upper edge of board receive thin plating of gold to insure good electrical contact upon assembly.

### General Dynamics Specialists To Teach Extension Courses

Twenty-nine General Dynamics Corporation specialists will be on the faculty of University of California Extension’s fall program.

Teaching courses in mathematics, engineering, business, physics, and languages when classes start Sept. 19 in San Diego will be ten Convair San Diego men, nine from Astronautics, eight from General Atomic and two from Stromberg-Carlson.

Of special interest to General Dynamics people in the San Diego area are new courses: Micro-Electronic Engineering, moderated by Dr. David B. Medved, Convair SD staff scientist; Materials for Missiles and Spacecraft, James F. Watson, Astro senior research engineer, coordinator; and Aerospace Physics, taught by Dr. Alex E. S. Green, Convair SD chief of physics.

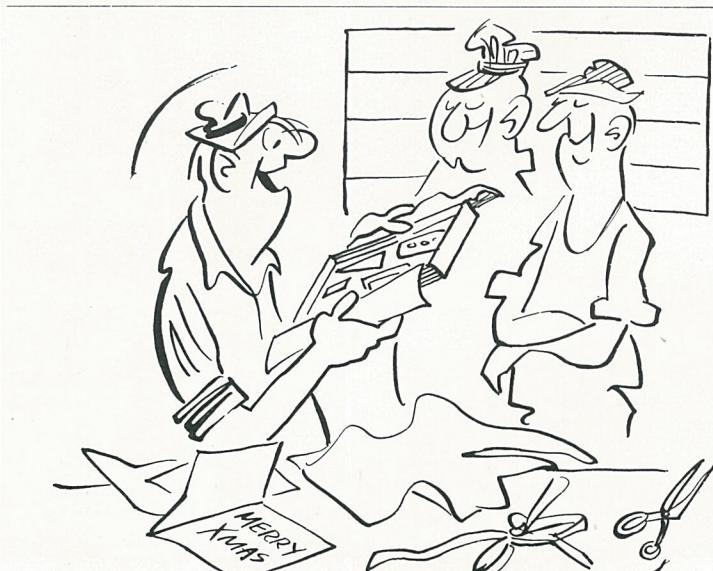
Medved will also coordinate a seminar in Selected Topics in Solid State Theory and Devices.

Others instructing will be—from Convair SD: Maxwell Frank, Henry Girouard, Lester Haar, James B. Herreshoff, Leo Lapides, James P. Mitchell, Eugene J. Putzer, Herbert T. Wexler. Astro men are Raymond A. Ezekiel, James F. Haskins, K. L. Montgomery, W. D. Montgomery, N. T. Norden, Conway C. Sams, Ernest Wade, Bruno F. W. Witte.

General Atomic instructors are James H. Alexander, T. E. Firle, C. O. Peinado, R. W. Preisendorfer, Carlo Riparbelli, Ward C. Sangren, Raymond E. Shanstrom, and Kon Worth.

Stromberg-Carlson men are William C. Slagle and Herman W. Volberg.

Catalogues and information may be had from University Extension office, 1221 Fourth Ave., SD, BE-2-7321.



“Oh, gee, fellows . . . Just what I needed . . . tools or something!”



## NEWS FROM OTHER DYNAMICS DIVISIONS

General Dynamics Corporation, created in April, 1952, as successor to Electric Boat Company, is composed of seven divisions and a Canadian subsidiary, Canadair Limited, of Montreal, airframe builders. The divisions are:

Convair, head offices at San Diego, Calif., aircraft, missiles, and space systems.

Electric Boat of Groton, Conn., submarines.

Stromberg-Carlson, of Rochester, N. Y., telecommunications, electronic equipment.

Liquid Carbonic of Chicago, Ill., carbon dioxide producer, industrial and medical gases.

General Atomic of San Diego, Calif., nuclear research, development, production.

Electro Dynamic of Bayonne, N. J., electric motors, generators.

Material Service Division, Chicago, Ill., building materials, concrete products and coal.

\* \* \*

## General Dynamics Executive VPs Named to Board of Directors

NEW YORK CITY—The election of C. Rhoades MacBride and W. P. Gullander to the board of directors of General Dynamics Corporation has been announced by Frank Pace Jr., board chairman. They are the two executive vice presidents of the corporation.

MacBride joined General Dynamics in January, 1958, as vice president for operations. He subsequently was named a senior vice president and on April 1,

1960, became executive vice president. A native of Chicago, he previously had been a partner in the business consulting firm of Robert Heller and Associates.

Gullander joined General Dynamics on April 1, 1960, as executive vice president. A native of Big Rapids, Mich., he had been with the Weyerhaeuser Co. of Tacoma, Wash., as vice president for finance and previously had served in various capacities with the General Electric Co.

## Consoles For Project Mercury Shipped by Stromberg-Carlson

SAN DIEGO—Shipment of consoles, displays and control equipment has been made by Stromberg-Carlson San Diego for Project Mercury, America's first attempt to orbit an astronaut in space.

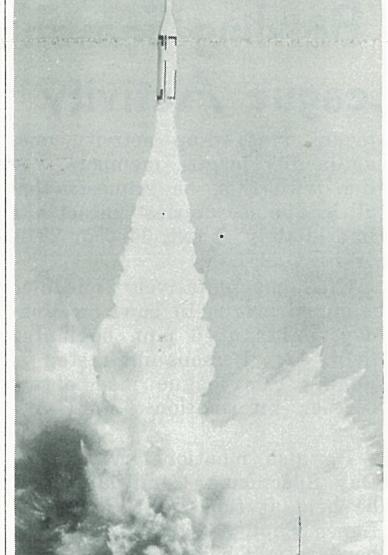
Stromberg-Carlson, with headquarters in Rochester, New York, is a division of the General Dynamics Corporation.

Stromberg-Carlson San Diego, under subcontract from Bell Telephone Laboratories, is responsible for design, fabrication and installation of equipment within the vital control center for Project Mercury. Equipment will enable key individuals, referred to as the flight controller team, to monitor data about the astronaut, the capsule, and its flight.

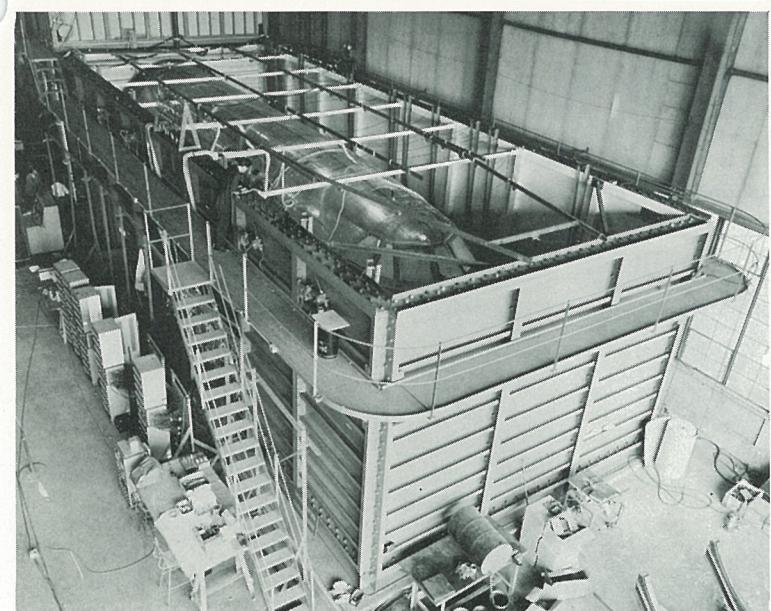
The various components have been delivered to Cape Canaveral where the control center will be located and to the Bermuda range station. Among these are consoles containing charts and meters to display data, switches to activate systems which control

### FORTESCUE NAMED TO EUROPE POST

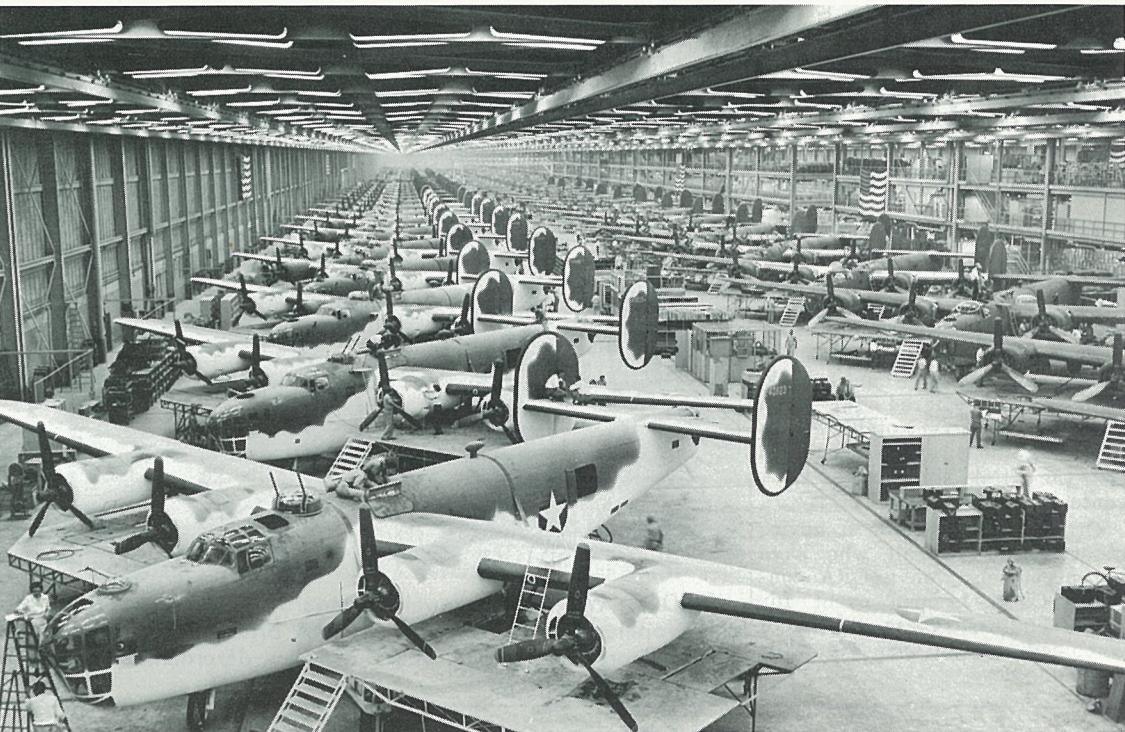
ZURICH—Dr. Peter Fortescue has been appointed chief research and development engineer of the newly organized General Atomic Europe (Convairiety, July 6). Dr. Fortescue, who is chief research and development engineer of General Atomic Division in San Diego, Calif., will also continue to act in that capacity.



**OUT OF DEEP**—Polaris missile soars skyward after launching from nuclear submarine USS George Washington, built by Electric Boat Division. Washington's whip antenna, raised to show vessel's location, is visible at right.



**TANK TESTING**—At Canadair engineers are preparing for static and fatigue testing of "Canadair Forty Four" fuselage in water tank. Front section, seen here, has been completely instrumented for measurement of loads, deflections, stress levels.



**CONVAIR FW IN '43**—Fort Worth's mile-long plant was packed with B-24 Liberators and C-87 Liberator Express transports during World War II days. Employment reached peak in November, 1943.

## More Than 3,000 Multi-Engine Aircraft Produced by Fort Worth During War

(This is installment No. 41 in continuing history of Convair.)

A skeleton administrative staff trained at San Diego had returned to Texas in December, 1941, assigned to the new Fort Worth plant, and the factory officially opened April 17, 1942, with a backlog of \$158 million. This was for assembly of 600 B-24D bombers that Ford was to ship as knock-downs from Willow Run. Since the Ford plant was not yet in production it was arranged for San Diego to send components for the 150 bombers.

The first Liberator assembled at Fort Worth was accepted by the Air Force on May 1, 100 days ahead of schedule. Thereafter, B-24s and C-87s (a transport modification of the Liberator) poured off the assembly line for nearly three years. Production exceeded 200 planes a month in the winter of 1943 and employment reached a peak of 30,574 in November of that year.

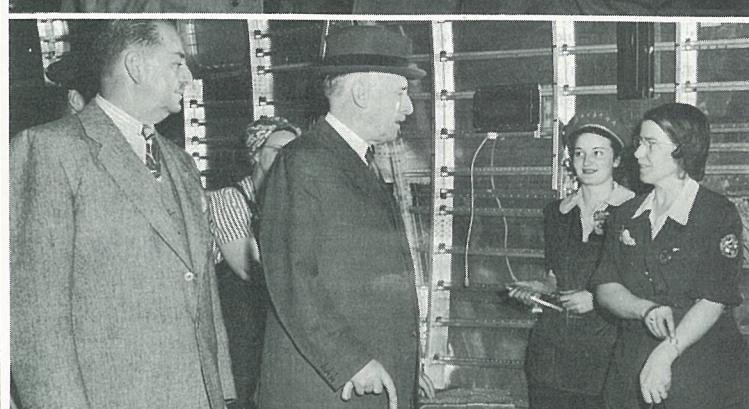
In August, 1942, the Texas division received a historic assignment, responsibility for detailed design and construction of two XB-36 intercontinental bombers. (Preliminary design and

mockup had been completed at San Diego.) The B-36 project retained low priority as long as production emphasis remained on current combat types, however. The prototype was nearing completion when the war ended.

Fort Worth's second collateral contract was for production of the B-32 Dominator, a heavy four-engine bomber fostered by the Air Force as a counterpart of the Boeing B-29. Production began in January, 1944, and the first B-32 was accepted by the

Air Force Sept. 15, 1944. The following April the first 15 planes were assigned to Western Pacific duty. The Pacific campaign was progressing so favorably, however, that the B-32 program was cut back heavily in May.

Fort Worth had produced more than 3,000 multi-engine aircraft when termination orders on the last wartime contracts were received Aug. 15, 1945. By December, the payroll had shrunk to 6,200 workers, engaged principally in the XB-36 program.



**WAR DAYS**—In top photo, taken at San Diego, Lt. Gen. William S. Knudsen, director of production for War Department, confers with Harry Woodhead, right, then president of Convair, and C. W. Perelle, left, then vice president-manufacturing. In center picture Secretary of War H. L. Stinson tours SD plant with I. M. Ladd, then Consolidated Vultee's executive vice president. Below is only one of its kind built, pressurized XB-32 with dual rudders. Later pressurization was abandoned to reduce weight and plane got single tail.

## 'Compressed Speech' System Ordered

ROCHESTER—Stromberg-Carlson Division has received a \$390,000 contract from Rome Air Development Center of the U. S. Air Research and Development Command for development of a completely transistorized multi-channel coder-multiplexer communication system.

The function of such a system is to provide several voice communication channels in the same frequency bandwidth normally required for one voice channel, by the use of speech compression techniques.

## Daingerfield Is Set for Contest Of Model Planes

Daingerfield model airplane enthusiasts are priming for an all-afternoon contest Sept. 11 at Mount Pleasant Airport south of town on the Pittsburg Highway.

Beginning at 2:30 p.m., contest events will continue until dark, with prizes offered for each event's winner. Notable is a special combat event scheduled for the first time at a CRA contest.

Other events include a novice stunt event (for all who have not previously won a CRA contest), Class 1 open event for small engines, Class 2 and 3 combined, and an open event for large engines.

## 'Denton Playboys' Play for Dancers

The Denton Playboys, a four-piece band, will play for a square dance at CRA Ballroom Aug. 20. Melton Luttrell will call for dancing from 8:30-11 p.m.

Square Dance Commissioner Ross Carney says all members of the square dance activity, as well as any other interested persons, will be welcome.



**BRIDGE WINNERS**—Jewel Baumgardner and Jim Nazzal display trophies won in Daingerfield CRA bridge tournament. Cumulative scores over four weeks of play determined winners in plantwide competition.

## Odd Sundays

### Newly-Muffled CRA Go Karts Continue Races at Area Track

Newly-muffled Go Karts continue to race at CRA Go Kart track on odd Sundays. Commissioner Sam Levisee says the only approved muffler is the "West Bed" #5101-1, and only Karts with that muffler are allowed on CRA track.

Mufflers may be purchased for

\$3 each from Dick Heist, 4924 Gilbert Dr.

Two "veteran" drivers monopolized their classes in the last Sunday afternoon races.

Bobby Heist again swept the boys' field, claiming first place in Boys' Heat Race, Australian Pursuit and Trophy Dash.

Juanita Allmon won all ladies' races—Heat Race, Australian Pursuit and Trophy Dash.

In men's events, laurels were split between Dick Heist and W. C. Allmon. Heist was first in Four Fastest Cars, Feature Race and Trophy Dash, while Allmon won Men's Heat Race and Australian Pursuit.

Next races will be Aug. 21 at 2 p.m.

## Pirates Receive Sportsmanship Award from CRA Little League

Pirates, CRA little league baseball team, received the CRA sportsmanship award for the season just completed.

"They consistently displayed good sportsmanship, even though they weren't winning," said Little League Commissioner R. B. Smith.

Meanwhile the entire Convair

Little League received a written "pat-on-the-back" from Fort Worth umpires who officiated at citywide games.

In a letter to Smith, the umpires said they "unanimously agreed that the Convair Little League teams displayed the best sportsmanship of all baseball leagues in the FW area . . . We umpires would like to commend the boys, managers, parents, league officials and others who are responsible for the display of true sportsmanship throughout the season."

## Regular Ham Nights Are Aug. 18 and 25

CRA amateur radio operators will get together for regular operating nights at CRA radio room Aug. 18 and 25 at 7:30 p.m.

Their monthly business meeting will be held in the Council Room at CRA Area at 3 p.m. Aug. 28.

## John Rangel Wins Men's Event In Summer Table Tennis Meet

John Rangel became men's summer table tennis champion by winning men's singles in CRA's summer tournament. Garry Stiles won boys' and girls' (under 13) competition, while Bernadine Sandquist became women's champion after a playoff match.

First day of women's round-robin tournament ended with Mrs. Sandquist in a three-way tie with Jan Mercer and Grace Adwell. Playoffs held the following Sunday gave Mrs. Sandquist the title, with Jan Mercer taking runner-up trophy.

Runner-up in men's play was

Bobby Reese, and Paul Gibbins was second in boys' and girls'.

CRA Table Tennis Commissioner Mounty Burt reminds all interested persons that the next regular monthly tournament will be held Aug. 28 at 2 p.m. at CRA Clubhouse.

## Ed Luedtke Wins Checker Competition

Ed Luedtke, Dept. 6-1, is new checker champion at Convair FW, having won the plantwide checker tournament July 30 at CRA Clubhouse. His prize was a six-transistor radio.

Second place winner was C. M. Stailey, Dept. 64, and third place went to A. R. Manley, Dept. 25-3.

## The Passing Years

Fort Worth

The following emblems were due during the period September 1 through September 15:

Twenty-year: Dept. 6, G. O. Warila; Dept. 7, R. G. Bryden, C. W. Jettun; Dept. 8, J. B. Dinsmore; Dept. 34, J. L. Dreiling; Dept. 74, J. E. Massey.

Fifteen-year: Dept. 6, W. Brinkley, W. V. Hughes, M. F. Towsley; Dept. 19, J. Cantrell.

Dept. 21, M. B. Golden; Dept. 22, J. R. Benton Jr.; Dept. 24, D. B. Kongable; Dept. 25, O. I. Whitley.

Dept. 27, J. E. Church, H. M. Toomer; Dept. 30, J. H. Lawson; Dept. 31, P. E. Jones Jr.; Dept. 36, C. B. West.

Dept. 46, J. D. Averett; Dept. 65, W. T. Lowery; Dept. 81, C. G. Barnes, H. H. Cooke, H. I. Lawler, O. C. Summerlin.

Dept. 82, W. L. Lindsay, P. T. Mayo, V. D. Wheeler; Dept. 96, C. Norman.

Ten-year: Dept. 3, M. J. Jennings, I. M. Seaton; Dept. 4, E. D. Brinkley, G. V. Camp, F. J. Cukale Jr., O. B. Culkins, L. L. Fleming, M. P. Foster, J. F. Garrick Jr., M. Hendricks, W. A. Johns, E. V. North, W. W. Westbrook.

Dept. 6, B. L. Allsbrook, J. H. Chaffin, I. V. Garrison Jr., M. W. Rogers; Dept. 8, M. O. Skinner.

Dept. 10, E. E. Chapin, J. E. Guy; Dept. 12, H. A. Cornell; Dept. 15, C. C. Carroll, L. S. Cooper, F. D. Sanders.

Dept. 16, G. C. Harris; Dept. 18, G. W. Fuqua, W. F. Pattillo; Dept. 19, B. L. Allard, G. D. Boyd, M. E. Edwards, G. C. Scott, R. A. Thomas, C. L. Willis.

Dept. 20, C. W. Turney, U. J. Walker; Dept. 21, B. C. Campbell, A. C. Henderson Jr., J. B. Spears, J. P. Zepeda.

Dept. 22, H. P. Adams, C. Bowen, A. L. Cantrell, J. A. Griffin, J. E. Harris, S. D. Heyward Jr., H. A. Hightower, C. H. Oldham, W. L. Rush, R. D. Slusher, H. C. Smith, L. R. Summers, A. R. Wiggins.

Dept. 24, T. A. Dickens, C. E. Germany, D. R. Kennedy, L. L. Latham, J. T. Lawrence, R. V. Pitts, L. E. Thomas.

Dept. 25, E. E. Estes, O. S. Fowler, S. O. Maples, A. McKinley, E. E. Perrett, H. Smith, L. D. Stetler, H. B. Wilson.

Dept. 27, T. E. Powers; Dept. 30, J. T. Harpster; Dept. 32, E. E. Gill, U. Hall Jr., Q. L. Mitchell, M. I. Parks, F. A. Upchurch.

Dept. 33, G. K. Allen, J. E. Crisp, R. J. Hargrove, E. J. Podsednik; Dept. 34, L. Cordell, G. C. Wilks Jr.

Dept. 50, J. C. Williams; Dept. 56, B. D. Templin; Dept. 63, Z. H. McClintock; Dept. 64, E. C. Wellborn Jr.

Dept. 73, E. P. Heinbaugh, M. J. Howard, G. M. Hyden; Dept. 75, B. G. Francis, H. L. Gunter, R. W. Kerrell, R. L. McSmith.

Dept. 81, A. J. Patterson, A. D. Williamson; Dept. 89, W. E. Wright; Dept. 92, W. C. Warren.

Daingerfield

Fifteen-year: Dept. 3, L. R. Bell.

Ten-year: Dept. 2, H. D. Roye; Dept. 8, R. W. Bassett.

## Log Book Entries

### Promotions

Fort Worth

Promotions to and within supervision, professional and administrative effective August 1:

Dept. 4: to material cost control analyst, C. W. Campbell; to material cost control coordinator, D. L. Faulkner.

Dept. 6: to aerodynamics engineer, R. C. Barron; to aerodynamics engineer, senior, B. D. Etherton; to chief of stability and flight control, F. A. Curtis Jr.; to design engineer, R. J. Allen, J. L. Allensworth, C. D. Hampton, D. H. Lind, C. J. McSweeney; to engineering publications editor, W. P. Krauter; to engineering writer, M. S. Rubenstein, A. A. Schrimsher; to group engineer, T. E. Collins; to nuclear engineer, senior, R. L. Henry; to nuclear group engineer, K. R. Spearman Jr.; to project aerophysics engineer, L. Crittenton Jr., B. Falk, B. R. Greene; to project engineering chemist, H. C. Hoffman; to project flight test engineer, C. L. Harrison; to structures engineer, E. U. Clark, M. H. McCollum.

Dept. 7: to factory special assignments man, A. J. Sullivan; to flight control project supervisor, D. O. Jordan.

Dept. 12: to flight test engineer senior, N. C. Stranberg; Dept. 28: to process analyst, M. E. Greene.

Dept. 48: to assistant foreman, W. T. C. Hall; Dept. 63: to field operations supervisor, O. M. Bennett, J. L. Young.

Dept. 92: to assistant foreman, J. L. Krahula; to general foreman, M. C. Smith; Dept. 94: to assistant general foreman, H. E. McMurtrey.

### Awards

The following received Employee Suggestion awards totaling \$3,747.76 for the period ending August 1:

Dept. 6, K. C. Whiteley; Dept. 14, R. A. Rowland; Dept. 17, D. R. Payne, S. W. White.

Dept. 19, J. DeGroat, R. G. Henry, K. B. Kramer, R. Mapp; Dept. 22, B. B. Hollabaugh, D. Parten.

Dept. 24, J. G. Neal, T. R. Whitley; Dept. 25, H. L. Brown, C. A. Wagner.

Dept. 27, A. M. Dahl, G. A. Hamilton, E. P. McDaniel, J. D. Shaufield, D. Marvin, J. D. Walker, T. L. Walker.

Dept. 28, A. W. Hudson; Dept. 29, E. E. McGee; Dept. 30, B. T. Grisham, D. R. Lancaster, B. W. McLeod, G. V. Morris.

Dept. 31, C. Reynolds, O. P. Riney, A. L. Sadler; Dept. 32, E. M. Beard, A. C. Dane, J. R. Gregory, R. L. Marsden, M. F. Perkins.

Dept. 34, R. Puckett; Dept. 41, H. H. Langham, Jr., W. W. Shifflett, A. F. Williams, W. S. Wooten Jr.

Dept. 55, M. L. Lowry; Dept. 57, H. C. Immon, E. Kardaras; Dept. 59, G. S. Gentry; Dept. 64, C. C. Willoughby.

Dept. 73, L. L. Floyd, J. C. Knight;

Dept. 74, C. R. Johnson, G. M. Joiner, G. A. Smith, C. A. Underwood.

### Retirements

SCOTT—J. W., Dept. 64. Seniority date January 20, 1943 (FW), retirement effective August 19, 1960. 704 Highway 199, Azle, Texas.

STAPLETON—W. F., Dept. 31. Seniority date March 10, 1947 (FW), retirement effective August 3, 1960. Box 5161, Fort Worth, Texas.

### Births

DURHAM—Robert Paul, boy, 7 lbs. 1 oz., born July 31 to Mr. and Mrs. T. B. Durham, Dept. 30.

### Deaths

STOUFFER—P. M., Dept. 6-7, died July 31. Survivors include his wife, two sons, and seven grandchildren.

### Personals

I wish to thank my many Convair friends for the lovely flowers and other messages of sympathy upon the recent death of my wife, Scott.

Retired employee from Dept. 81

The family of Mrs. Emil Gerik acknowledges with grateful appreciation the kind expressions of sympathy.

B. W. Gerik and family, Dept. 4-5

### Hitchhikers

Ride Wanted From Morningside Park, 7 a.m. shift, call J. G. Waldrop, WA 7-0688.

316 University Dr., 8 a.m. shift, call Kathy Stewart, WA 6-0617.

26 Buford Court (Hurst, near Bell), 3:45 p.m. shift, call J. R. Trentham, AT 4-2297.

1700 St. Louis (S. Side), 8 a.m. shift, call B. E. Crews, ext. 2012.

2680 Birchill (Poly.), 7 a.m. shift, call Gene Hudson, JE 4-9832.

4217 Trueland Dr. (S. Poly.), 8 a.m. shift, call M. N. Simons, JE 6-3634.

1834 Pilgrim, Irving, 8 a.m. shift, call R. B. Jeffers, BL 3-9630 (Irving).

3105 Willing, 7 a.m. shift, call Virginia Handy, WA 4-6618.

5620 Walla (Wedgewood), 7 a.m. shift (lot 3), call T. Merwin, AX 2-1098.

6428 Greenway (N. Ridglea), 8 a.m. shift, call L. W. Cogburn, PE 2-3649.

Riders Wanted From Blackstone and Merritt (River Oaks), 7 a.m. shift (lot 3), call PE 2-4661.

**SMASH HIT**—Winchester rifle representative Jim Stotz scores direct hit on clay pigeon during instruction sessions aimed at getting CRA hunters in top form for bird season.

**HAPPY HUNTING**—CRA Hunting and Fishing Commissioner Bill Parrish, left, poses with Stotz during rest from target practice. Parrish has arranged with Stotz to conduct CRA shooting clinic Aug. 20 and 27 at FW Gun Club skeet and trap range.



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## 'Competitors for Robin Hood' Total Twenty-Five As CRA Archery Activity Continues to Grow

The woods at CRA Area are far-removed from Sherwood Forest, but Robin Hood would have found worthy competitors, nonetheless, among members of the growing CRA archery activity.

Many of the club's 25 members hold titles won in tournaments across the country. Others are beginners who received their first introduction to the fascinating sport at CRA. But all agree, archery involves far more than merely pulling a bow string and letting the arrow fly.

It's a sport requiring strength, steady nerves and a good target eye—not to mention hours spent practicing and taking care of expensive equipment.

But CRA offers help in more ways than provision of an archery range for practice. Activity members have acquired facilities for making and repairing their own equipment—no small order when you consider purchase of a bow at about \$100 and a dozen arrows from \$10 to \$35!

Coming soon will be organized classes, both in "the art of shooting" and in care and making of equipment.

Proper equipment, incidentally, is a prime requisite to becoming an expert bowman.

Starting with the bow: bows are classified as 24-pound, 35-pound, etc. This means the amount of pull it takes to stretch

the bow string 28 inches from the outstretched arm to shooting position by the shoulder.

Archery Commissioner Joe Butts uses a 38-pound bow himself. His wife's is a 33-pound. (Most women shoot with a 25-35 pound bow.)

What's the biggest bow used? Butts has heard of a man who shoots a 125-pound bow. In fact, he bagged an elephant using it!

The strings on the bows are made of dacron—and CRA members make their own. Dacron is used because of its strength, and unlike nylon, it stretches very little under constant use.

There are several types of protective equipment used by bowmen. For instance, the arm guard worn on the left arm to prevent getting "slapped" by the bow string. And there are gloves or "finger tabs" to protect the shooting hand.

Arm guards, of wood or leather, are made by CRA archers for their own use.

More equipment made at CRA includes quivers — any Robin Hood fan knows that's where bowmen keep their arrows.

One of the archer's greatest expenses—and recurring at that—is arrows. Good wood arrows run about \$10 a dozen. Fiberglass arrows are \$25 a dozen, while aluminum cost anywhere from \$29 to \$34 a dozen.

HOMEMADE arrows represent a saving of about one fourth retail price for a dozen, so it's with arrow-making that much of the CRA archers' time is spent.

They begin by buying the shaft. Then it must be fletched—that refers to attaching feathers on the rear tip to guide the arrow in flight. Turkey feathers are commonly used. Butts prefers plastic "veins" instead of feathers—since plastic is unaffected by damp weather, whereas feathers lie down when wet and fail to do their job.

"And archery is a rain-or-shine sport," Joe smiles. "So we need all-weather arrows."

CRA's fletching machine holds veins in place while they are glued and dried to the arrow shaft. Then a burner is used to shape feather veins. This is simply a red-hot wire, shaped to the desired size, which burns off the edges of the feather.

Later a silicone spray is used on feathers, which gives them added body and a protective covering.

Cresting is another step in arrow fabrication. Cresting refers to the painted circles around the arrow shaft which individualizes arrows. CRA archers have special equipment to hold their arrows while the tiny colored circles are painted.

There are several types of archery competition events. Target is perhaps the most common. This involves shooting 90 arrows — six in each series — at standard targets. Thirty arrows each are shot from 60, 50 and 40 yards (American target). Scores are compiled with nine points for each bullseye, seven for the next outer circle, and on out in decreasing pointage of five, three and one.

A field event is a simulated hunt, with targets set up in a wooded area. Competitors wander through the trees, stopping at designated places to shoot at the next target which may be anywhere from 15 feet to 80 yards away. A 20-acre minimum amount of land is required for a field event.

In clout events targets are drawn on the ground with a stake marking the center bulls-eye, which itself measures nine feet in diameter. Men shoot from a distance of 180 yards and women and children from 120 yards.

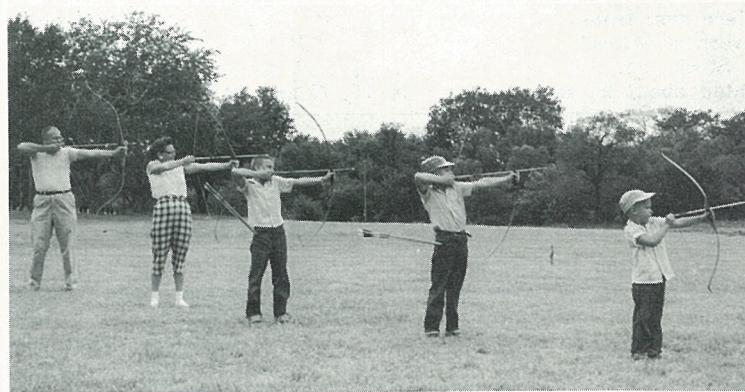
Flight events are strictly distance competition, with the longest shot winning.

Butts says any Convair employee or member of his family is invited to learn more at the Sunday afternoon CRA shoots. Beginning Aug. 18 the group also plans to have Thursday evening shoots, beginning at 7 p.m.

"And we particularly need more women," says Nell Butts, who apparently doesn't want to keep all the feminine honors to herself — only last month she won first place in field in a Kansas tournament and first in field at the Texas State tourney!



**FLETCHING** — Bonnie Corns, center, demonstrates fletching machine, which attaches feathers to arrow shaft, while Nell Butts, left, burns feather to correct shape, and Evelyn Mitchell sprays feather with protective coating to keep it from getting wet.



**FAMILY SPORT** — Joe Mitchell family finds archery is answer to search for outdoor sport for entire family. Competition is hot between, from left: Joe; wife Evelyn; 11-year-old Terry; 8-year-old Darrel; and 5-year-old Lynn.

## Over 100 Turney Entrants Vie For Plantwide Golfing Honors

With over 100 entrants vying for honors, the annual CRA plantwide golf tournament got under way last weekend with medal play at Rockwood Golf Course. Saturday and Sunday 18-hole scores were to determine championship and first flights.

Flight winners will be named after Aug. 20 and 21 play at Worth Hills Course.

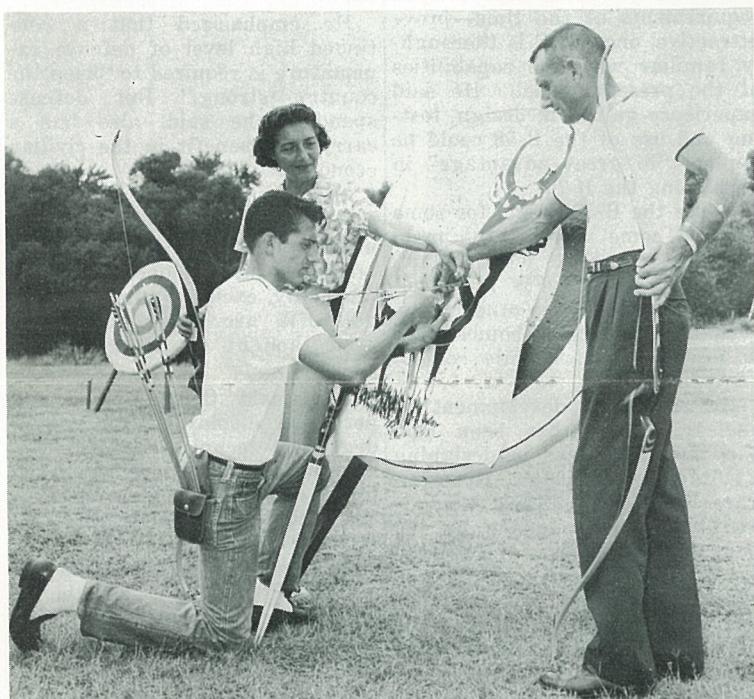
Foursomes for first games in medal play included Lester Maxwell, Roy Clark, F. H. Withers and A. C. Lotspeich; W. B. Choate, John Seat, Ray Bissell and J. B. Rankin; Jack V. Smith, H. M. Law, Ray Massey and W. F. Carruth.

Also A. L. James, A. W. Johnston, R. E. Lumbach and E. R. Muncey; Dick Guttman, J. D. Thedford, C. F. Fiedler and R. E. Leimbach; J. J. Desensi and R. E. Beissner.

Third flight: John Thomas and J. Dominique; J. R. Perkins and H. E. Kincaid; B. P. Johnson and Jake Allen; C. B. Clark and C. J. Keith; Joe McLean and J. L. Little; B. L. Lawson and J. P. Nordin; E. W. Snelson and E. W. Gattis; L. O. Shepherd and F. L. Kildow.

Fourth flight: H. J. McDonald and A. M. Kiser; M. E. White and W. B. Watkins; B. W. Browning and B. V. Zuber; J. R. Olree and D. E. Rogers; Frank Ferguson and H. O. Davis; B. G. Brownlee and K. A. Taylor; Walt Zebrowski and W. S. Hay; W. F. Harper and F. W. Prater.

Fifth flight: J. A. Shaddy and C. D. Redden; J. B. Eslick and Sam Howard; G. P. Rambo and W. L. Sharp; Fred Dieb and R. Fricke; J. W. Guinn and Richard Bulmer; V. L. Wright and H. N. Barber; Harold Henson and Danny Johnson; G. E. Cole and B. B. Rawls.



**SUCCESSFUL 'HUNT'** — Family of Archery Commissioner Joe Butts, left, gathers around target to inspect results of aim of Joe Jr. Mrs. Butts finds one arrow scored direct hit on antelope target, resulting in "kill."



### Activities Calendar . . .

Convair Recreation Association events in the next two weeks are listed below. Read it for reference until next issue of Convair. For more information, phone CRA office, ext. 2771 at Fort Worth, ext. 424 at Daingerfield.

#### Fort Worth

Tonight, August 17

ASTRONOMY: meeting, 7:30 p.m., CRA.  
RANCH ACTIVITY: roping, 7:30 p.m., CRA.

Thursday, August 18  
ARCHERY: shoot, 7 p.m., archery range, CRA.  
RADIO: operating, 7:30 p.m., CRA.  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.  
SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Friday, August 19  
BRIDGE: duplicate session, 7:30 p.m., CRA.  
RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

Saturday, August 20  
SQUARE DANCING: dance, 8:30-11 p.m., CRA.

Sunday, August 21  
GO-KART: race, 2 p.m., CRA.  
RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.  
TABLE TENNIS: play, 2 p.m., CRA.

Monday, August 22  
MOVIE: "Lady Takes a Flyer" (color). Show lunch period, 50-foot aisle.

Tuesday, August 23  
GARDEN CLUB: meeting, 7:45 p.m., Garden Center, Botanic Gardens.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.  
TENNIS: lessons, 6:30 p.m., CRA.

Wednesday, August 24  
ASTRONOMY: meeting, 7:30 p.m., CRA.

BRIDGE: duplicate session, 9:30 a.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Thursday, August 25  
ARCHERY: shoot, 7 p.m., archery range, CRA.

RADIO: operating, 7:30 p.m., CRA.

RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

SQUARE DANCING: classes: beginners, 7 p.m.; advanced, 8:15 p.m., CRA.

Friday, August 26  
BRIDGE: duplicate session, 7:30 p.m., CRA.

RANCH ACTIVITY: roping, 6-8 p.m., ranch area, CRA.

Sunday, August 28  
RADIO: business meeting, 3 p.m., CRA council room.

RANCH ACTIVITY: cutting, 6-8 p.m.; roping, 7-9 p.m., ranch area, CRA.

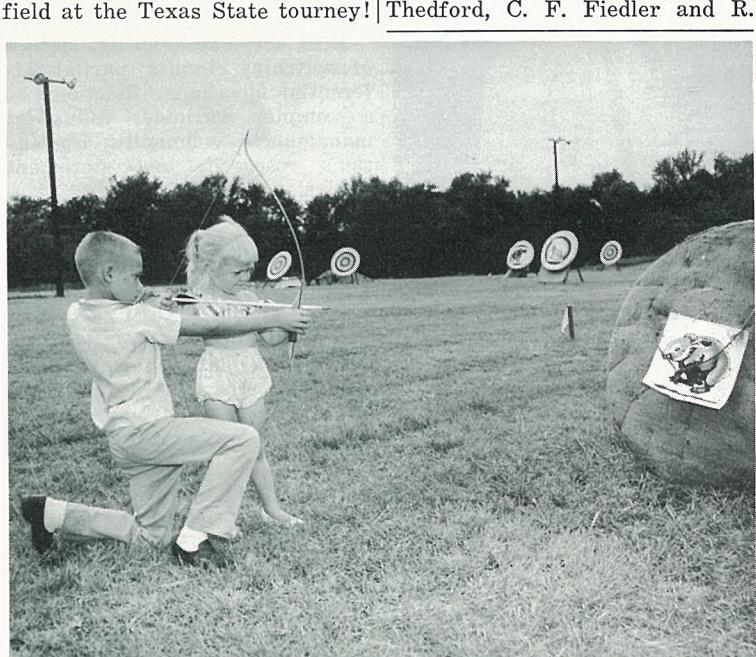
TABLE TENNIS: tournament, 2 p.m., CRA.

Monday, August 29  
MOVIE: "Bonzo Goes to College." Show lunch period, 50-foot aisle.

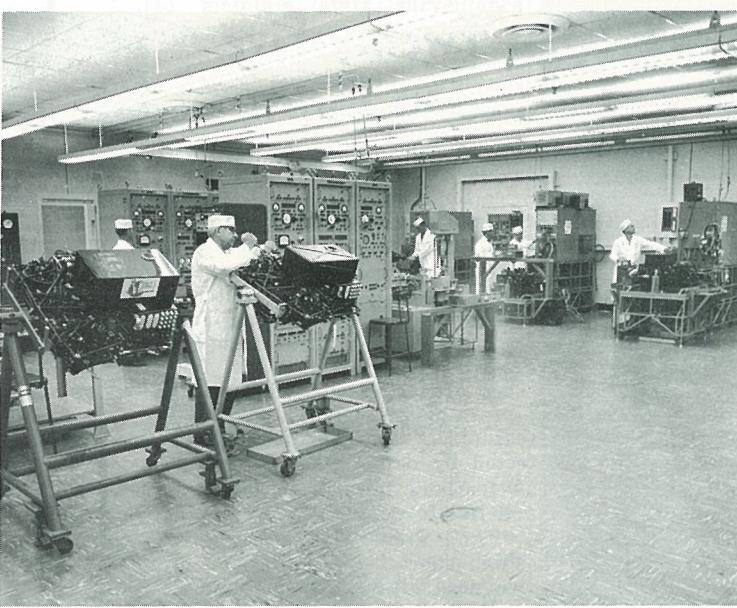
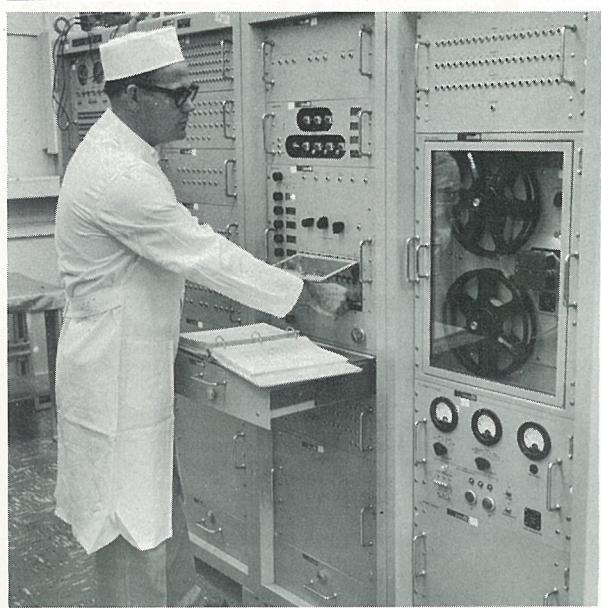
TUESDAY, August 30  
RANCH ACTIVITY: cutting, 6-8 p.m., ranch area, CRA.

TENNIS: lessons, 6:30 p.m., CRA.

Wednesday, August 31  
BRIDGE: duplicate session, 9:30 a.m., CRA.



**HERE'S HOW** — Four-year-old Carol Clark gets lesson in aiming from "expert," brother Dean, seven. They're children of archery activity member Calvin Clark. Bow is Carol's own.



**"SURGICALLY CLEAN"**—Hospital operating room could scarcely be cleaner than new flight control laboratory. At right, H. W. Johnston, Dept. 78 general foreman, dons white mask and cap before entering. At left, J. H. Akin, electronic technician,

checks out new device which will cut testing time of component substantially. Center is central part of lab. Flight control equipment of B-58s will be repaired and modernized in dust-free, air-conditioned lab.

## New Flight Control Lab 'Tailor-Made' Dust Free

(Continued from Page 1)  
dowless laboratory.

"We have our own central hydraulic system, which pipes fluid (oronite) to the testers," Halsey said. "And we also have our own central electric system."

"All wiring is under the floor, since dust traps tend to form on overhead wires."

Stock cribs for the lab are located about 20 feet away, as is

the holding area for incoming flight control components and sub-components.

In addition to the main lab, there are separate rooms for sub-component testing and hydraulic component assembly.

The laboratory was set up in about 60 days. "A tremendous feat," Halsey said, "made possible by fast action by Depts. 93, 16, 25, 75 and 92."

## Test Force Command Passes to Col. Johnson

As the B-58 Hustler advances to Category III at Carswell AFB, Col. David M. Jones, head of B-58 Test Force, leaves FW for Wright-Patterson AFB in Dayton, Ohio, where he will be vice commander of Wright Air Development Command.

The Hustler now is in the hands of Col. James K. Johnson, commander of the 43rd Bomb Wing, which takes over for Category III operations.

Col. Jones, as retiring head of the force at Carswell, leaves behind him successful completion of first try of a totally new concept in Air Force complete weapon system testing. This involved Category I and II testing personnel from Convair FW, ARDC, AMC and SAC's 43rd. Now SAC moves in for executive responsibility in Category III.

The "three-category" theory of testing represents compression of eight "phases" previously used by the Air Force. Purpose, according to Col. Johnson, is to "decrease lead times and accelerate development of new weapon

systems from drawing board into integrated, combat-ready fighting units."

And this it did—in about one half the time previously required.

Category I began with the first flight of the B-58 in 1956. Convair has prime responsibility during these tests of sub-systems of the aircraft, which will probably extend throughout the duration of the contract as subsystems are updated and refined.

Category II, under direction of the B-58 Test Force at Carswell, involved tests of complete systems—for instance, fire control and bomb-nav. It began in August of 1958. Notable during these tests were the first Mach 2 pod drops, and several endurance flights, the longest being 18 hours plus.

Prime objectives of SAC's 43rd Bomb Wing as it takes the Hustler through Category III will be threefold: testing and evaluating tactical employment of the integrated weapon system, training air crews, and maintaining combat-readiness of the wing itself.



**SAFEST**—Fred R. Temple, chief safety engineer, presents factory safety contest banner to Grady Henry, Dept. 73 general foreman.

## Electric Bench Repeats Quarterly Safety Win

Dept. 73 (electrical bench) earned the plant safety banner for the second consecutive time during second quarter of 1960.

The Group I entry in the factory contest chalked up 486 of a possible 500 points—repeating its first-quarter performance.

Scores are based on injury record, safety activity, safety committee meetings, and accident-

free months during the previous quarter.

Other group winners included Dept. 35, Group 2, 481 points; Dept. 41, Group 3, 477 points; Dept. 59, Group 4, 481 points; and Dept. 63, Group 5, 466 points.

Chief Safety Engineer Fred Temple said smaller safety banners went to winners in each group.

## B-58s Become Part of SAC's 'Starting Team'

(Continued from Page 1)  
the 43rd and following B-58 wings."

Entry of the B-58 into Category III projects the Hustler even more prominently into the front line of aerial defense. As the nation's fastest bomber striking force, the Hustler is expected to add depth and versatility to SAC's already lethal retaliatory power.

"The B-58 will be flying more and more combat sorties as Category III develops and production Hustlers roll off the assembly line at Convair," Col. Johnson said.

He also voiced confidence the Hustler would win the 1960 SAC bomb competition next month.

The 1,800-man 43rd Bomb Wing became the first Hustler unit in March of this year when it was "transferred" from Davis-Monthan AFB.

"During the year Carswell will become, from a population and equipment standpoint, primarily a B-58 base," Col. Johnson said. "The 43rd will fill in with the normal complement of B-58s."

## Registration Date Set For Graduate Work

Registration for SMU graduate engineering program will take place Sept. 7 in educational services section (Col. 107 C on the mezzanine) in Room 113. Classes begin the week of Sept. 26.

Following subjects are tentatively offered: introduction to potential flow; aeroelasticity; advanced thermodynamics; advanced physical equilibrium and chemical processes; dynamics of systems; engineering analysis; theory of plates and shells; advanced stress analysis; advanced strength of materials; transistor applications; transients in linear systems.

Also servomechanisms; design of switching circuits; partial differential equations; functions of a complex variable; industrial management techniques; operations research; and statement analysis.

## Civic Leaders Tour SAC, Convair Sites

A SAC-Convair FW B-58 cooperative orientation program was held Aug. 14-16 for about 40 civic leaders from the San Antonio radar bomb scoring corridor.

The group—representing 14 cities in an area from Plainview to San Antonio—was flown to Omaha for a tour of SAC headquarters. They were then returned to Convair for a briefing on operations at the Fort Worth plant.

Mal Holloway of the division manager's office accompanied the group on the tour. It was the sixth such tour conducted to date.

## Foreign Policy Role Forecast For Future Atomic Airplane

(Continued from Page 1)

Air Force acceptance of the necessity for manned bombers "for some time to come" augers well for the B-58, Pace said.

He said there is no other military aircraft competing with the B-58, including the B-70, which he said is in a different class. And he expressed confidence that growth versions of the Hustler—though these would depend upon requirements at the time—prove attractive, once SAC is thoroughly familiar with the capabilities of the present model. He said experience gained in design, testing and use of the B-58 could be applied "to great advantage" in developing the B-70.

While the B-58 is and for some time to come will be, the main work at the Fort Worth plant, Pace said Convair FW is "developing competence" in other areas, such as the nuclear bomber and in production of missile components.

He said that development of nuclear aircraft has been held back by difficulties in designing a suitable power plant. However, Pace said he believes Convair will build such a plane by the mid or late sixties. He pointed out that a nuclear-powered airplane would have strategic potentialities similar to the atomic submarine. The atomic airplane could serve as an excellent early-warning station or missile launcher, Pace said. He predicted that such an aircraft, capable of long periods "on station," would become especially important in military planning if a defense for intercontinental ballistic missiles is found.

Pace, reviewing other work in process at Convair FW, cited that operating division's growing "high level of competence" in the missile field. "Every Atlas that is fired has a Fort Worth part on it," he commented, referring to Atlas booster sections fabricated at Convair FW.

Pace said Convair FW also is working on a number of research programs from which future projects may emerge. "Defense today is highly fractionalized business," Pace remarked. "The state of the art is such that there are no big, identifiable programs any more," he added. In their stead, smaller research programs are coming to the fore.

Pace said that General Dynamics is playing a major role in the effort to keep this country free and strong.

"This is an era of great national search, in which America must find its purpose in order to meet the stern requirements of the Communist challenge," he said.

"One of my toughest jobs (as vice chairman of the President's Commission on National Goals) is to tell the American people they've got to change," he said.

"Our first order of business is to reaffirm our purpose: namely to make it perfectly clear to the world that we will not have another way of life. This sense is coming to America slowly. But it will require self-discipline the

likes of which no nation has been forced to subject itself to," he warned.

"General Dynamics has long recognized that its first duty is to the U. S. government," he said. "We've engaged in no competition in which we haven't been completely honest . . . and this, above all, is the reason we're the leading defense contractor today."

He emphasized that a continued high level of defense expenditure is required to "keep the country strong." But defense spending, he said, also has a carry-over benefit in the civilian economy.

"Efforts of Convair people are stimulating development of commercial products that wouldn't otherwise be developed," he said. "Actually, exciting minds at Convair FW are doing things not even thought of in commercial fields."

Pace said that Convair FW personnel display "a remarkable degree of technical competence," enabling them to develop an airplane (the B-58) which has been the biggest single advance in the history of aircraft technology.

"I have a special feeling for Convair Fort Worth," he said, "in its people's competence, drive, enthusiasm and capacity to contribute to the Free World."

## Gen. LeMay to Talk At Aug. 26 Joint Meet

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units to enter combat in World War II.

His group also was the first to use an 18-aircraft formation, enabling it to use a maximum of firepower against enemy fighters.

In August of 1943, General LeMay led the famous shuttle mission of Flying Fortresses from England to target at Regensburg, Germany — ending the mission by landing in North Africa.

He was transferred to the China - Burma - India theater in 1944, and in 1945 he took command of the Marianna-based 21st Bomber Command, which he continued to lead until after it grew into the 20th Air Force.

In October, 1947, he was in command of all U. S. Air Forces in Europe.

## DAVIS TO ADDRESS CLUB IN NOVEMBER

Due to a heavy slate of programs in August, no Management Club meeting will be held in September, Club President C. C. Utley has announced.

Utley said Ray J. Stanish, regional sales manager of Thompson - Ramo - Wooldridge Products Co., Chicago, will speak at the "Science Night" program in October.

In November FW Manager Frank W. Davis will make his annual appearance before the club.